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JOSEPH HENRY,
Secretary S. I.

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

MONOGRAPHS

OF THE

DIPTERA

OF

NORTH AMERICA.

PREPARED FOR THE SMITHSONIAN INSTITUTION

BY

H. LOEW.

PART I.

EDITED, WITH ADDITIONS,

BY

R. OSTEN SACKEN.

WASHINGTON:
SMITHSONIAN INSTITUTION.
APRIL, 1862.

ADVERTISEMENT.

The present publication is the first part of a work on North American Diptera in process of preparation by Dr. H. Loew, of Meseritz, Prussia (one of the highest living authorities on the subject), undertaken at the especial request of the Smithsonian Institution. The materials have been derived principally from the collection of Baron R. Osten Sacken, of the Russian Legation in Washington, kindly intrusted to the author for examination.

As explained by Dr. Loew, the work will appear in monographs of genera and families, sufficient materials being at hand for illustrating particular groups only, without relation to their systematic sequence.

The Institution is under obligations to Baron Osten Sacken for editing the work, adding species described by Dr. Loew subsequent to the reception of his manuscript, and for correcting the proofs. He has also added a monograph of the *Cecidomyidæ*, a group of much interest, and one to which it was considered of importance to call the early attention of investigators.

JOSEPH HENRY,
Secretary S. I.

Smithsonian Institution,
Washington, March, 1862.

ACCEPTED FOR PUBLICATION, JULY, 1861.

PHILADELPHIA:
COLLINS, PRINTER.

PREFACE.

The impulse to write on North American Diptera was given to me by Baron Osten-Sacken, who, first by sending me rich collections of such Diptera and finally by intrusting me with the greatest part of his own Diptera collected in North America, has enabled me to undertake this task, and, I hope, with some success. If my observations had been written in German, and published in any of our German Transactions, I should have had good reason to fear that the results would not become sufficiently known in North America, and would at all events be longer in obtaining access there. I resolved, therefore, to give them in English, and the Smithsonian Institution in Washington has added to the many proofs it has already given of an energetic furtherance of any studies relative to the natural history of North America, the liberal resolution to print my paper on North American Diptera at its own expense. If these papers, according to my intention, contribute to the increase of the study of this interesting order of insects, the principal thanks are due to the Institution and to Baron Osten-Sacken. As for the English text, I use, it is true, the assistance and advice of a friend who is well acquainted with the English language; should, nevertheless, some roughness occur, I beg that it may be attributed to some supplementary alterations of my own, which circumstances prevented me from submitting to him. I hope that shortcomings of this kind will be kindly overlooked, provided my descriptions be not deficient in precision and clearness. As I do not wish to remain the sole describer of N. A. Diptera, but hope soon to have many fellow-laborers, I take the liberty of pointing out briefly what, in my opinion, should be chiefly borne in mind in making and publishing such descriptions. Without any disposition to find fault with others, I believe I may be permitted some remarks, since for the last twenty years I have been occupied with the study of Diptera, and have been obliged to spend many hours in identifying (how often fruitlessly!) the published descriptions. What renders the identification of a very great number of the existing descriptions so very difficult, is the inexactness of the system used. For however natural the axiom may appear, that a new species is only to be located in the genus to which it really belongs, it is so little respected by most dipterological writers, that a long list could be made out of the instances in which they have sinned against it; indeed the number of cases, in which a new species has been placed in a wrong family, is not small. It is not even always sufficient to place it in the right genus, for as soon as this genus is at all numerous in species, or the species are difficult to distinguish, the peculiar group of the genus to which the new species belongs should be pointed out, and if among the species already well known there are any very similar to those described, they ought of necessity to be specially mentioned. Consequently only those entomologists will publish new Diptera with success, who are completely acquainted with the system of this order of insects, whereas he who has a defective knowledge of it, far from advancing science, lays impediments in its way. The first task, then, for those who intend to come forth with satisfactory papers on the field of Dipterology, will of course be to acquire a most complete and sure knowledge of the system.

As an introduction to the following essays of a more monographic character, will be found a short sketch of the terminology of Diptera, as well as one of the dipterological system. The latter afforded me an opportunity of giving an outline of the North American dipterological fauna, as far as known to me at present. An elaborate classification, equally detailed in all its parts, would require not only a larger amount of materials than I have at my disposal, but also, in order to be intelligible, a considerable number of plates. I am compelled, therefore, to give up such an undertaking for the present, I hope, however, to be able to execute it at some future time. Although I trust that my short sketch will prove of some help to the student, by furnishing him occasionally a useful hint, or guiding him aright in general, it will be readily understood that in the prosecution of the study he will require more detailed information. I will, therefore, briefly indicate the works in which he may find it: Meigen's *Zweiflügelige Insecten* (7 vols.

8vo.) is still the best work, exhibiting the dipterological system. In order to obtain information on the progress which science has made since Meigen's age, this work may be followed by the study of Walker's *Diptera Britannica.* The excellent plates by Mr. Westwood, and the systematic arrangement prepared for the most part by Mr. Haliday, give to this work a value not shared by Mr. Walker's other publications. Next to these I would name Mr. Macquart's *Diptères Exotiques*, a work which, notwithstanding the errors in many of its figures and the carelessness of nearly all the descriptions, affords a great deal of useful information about the systematic arrangement of Diptera.

After having acquired a general knowledge of the system by the study of these three works (or, if not familiar with the German language, of the two latter only), the best plan will be to concentrate special study on one, or, at the utmost, on a few families of Diptera, and to consult the monographic papers relative to them, which are not difficult to procure, in order to obtain a complete and sure knowledge of characters within a more limited field. For even the smallest field will always be found wide enough to afford opportunities for the most interesting discoveries. This mode of obtaining a knowledge of the system capable of serving as a solid foundation to valuable publications is certainly a long and tedious one. It may be considerably facilitated, however, by the use of a well determined collection of typical specimens of all the families and genera, and it will afford me much pleasure to extend all assistance in my power to those who may prefer the latter course; for both my wish to become better acquainted with the Diptera of North America and their desire to study the system might well coincide to supply the wants of both parties.

I am always ready to send in exchange for well preserved N. A. Diptera forwarded to me (address Mr. H. Loew, Meseritz, Prussia) a reasonable equivalent in accurately named representatives of the genera. I should probably be obliged, in most cases, to send only European specimens, whereas, perhaps, it would seem more desirable to have N. A. species. But the number of species occurring in perfect identity both in Europe and North America is so surprisingly large, and, besides, there are so many N. A. species exceedingly resembling well-known European ones, that the best foundation for the study of N. A. Diptera would be a complete collection of European species. It will be very useful to both parties, if those who desire an exchange would remember that the smaller and smallest species possess the greatest interest for me, and if they would at the same time point out to me such families as they are chiefly desirous of knowing. Moreover, it will be necessary to agree about the way in which the equivalents might be forwarded. In case I receive no such direction, I shall suppose I am at liberty to send them by the kind intervention of the Smithsonian Institution at Washington, through which I beg all consignments intended for me may be forwarded.

I have no doubt as to a successful issue to my labors, if I continue to receive the same liberal and generous assistance from the Smithsonian Institution and from Baron Osten-Sacken which I have enjoyed from the beginning, especially if this commencement contributes to increase the number of those interested in the study, and ready to promote it by the communication of species taken by them, in the same way in which Messrs. Rob. Kennicott, S. H. Scudder, A. S. Packard, Edw. Norton, and others, have furnished materials for the excellent paper of Baron Osten-Sacken on the *Limnobidæ* of North America.

H. LOEW.

MESERITZ, 3 Oct. 1860.

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ON THE TERMINOLOGY OF DIPTERA.

Diptera have so much in common with other orders of insects that the terms applied to the latter, which I may consider as generally known, may frequently be used for the former. I have therefore merely to explain those terms which, on account of the peculiar organization of Diptera, are either applied solely to the insects of this order or are used in a more or less modified sense. It is well known, how little the various authors agree in the choice of these terms, and how many of them seem to find pleasure in departing as much as possible from the terms used by their predecessors. This is a great evil, aggravating the difficulty of understanding Dipterological publications, and impeding the progress of Dipterology. It would take too much space to explain all the terms used by different authors, and I confine myself to those only which seem the most necessary and which I have used in this publication. The following considerations have guided me in their choice. I think it a duty of a later author to accommodate himself to the usage of his predecessors, especially those who have written standard works, and at the same time to reconcile them as much as possible where they differ from each other. The indispensable innovations should be introduced only gradually and in conformity with the established usage, since in such matters an agreement about the terms chosen is more important than the mode of selecting them. Meigen, Wiedemann, and Fallen in earlier times, Zetterstedt and Macquart more recently, have in that respect a claim to our attention. It has therefore been my object to assume the position of an arbiter between them, and to avoid such terms as depart entirely from the adopted usage, except in cases in which I might differ so much from my predecessors as to become unintelligible if restrained by their terminology.

The *head* has a hinder plane opposite to the thorax, called occiput (*occiput*); that region of it lying over the junction of the head is the nape (*cervix*). The part of the head which reaches from the antennæ as far as the occiput and is limited laterally by the compound eyes, is the front (*frons*), the upper part of which is the crown (*vertex*), the limit between the front and the occiput having the name of vertical margin (*margo verticalis*). The middle of the front being often of a more membranaceous substance and sometimes differing in color from its borders, is called the frontal stripe (*vitta frontalis*). On the crown, there are the simple eyes (*ocelli*), being usually three in number and forming a triangle, sometimes on a sharply defined triangular space, the ocellar triangle (*triangulum ocellare*). Most of those Diptera which undergo their metamorphosis within the larva-skin possess, immediately above the antennæ, an arcuated impressed line, which seems to separate from the front a small piece usually of the form of a crescent, the frontal crescent (*lunula frontalis*). The impressed line itself, which continues over the face nearly as far as the border of the mouth, is called the frontal fissure (*fissura frontalis*). It owes its origin to a large bladder-like expansion which exists at this place in immature imagos, and which helps them in bursting the pupa case. The frontal fissure of course is the true anterior limit of the front, and the frontal crescent in fact belongs to the face; however, on account of its usual situation, it is commonly considered as a part of the front. In many genera the eyes of the males meet on the front, so as to divide it into two triangles, the superior of which is called the vertical triangle (*triangulum verticale*), the inferior the anterior frontal triangle (*triangulum frontale anterius*), or simply the frontal triangle (*triangulum frontale*). The anterior portion of the head reaching from the antennæ to the border of the mouth or oral margin (*peristomium*) is called the face (*facies*). In most Diptera it is divided into three parts adjoining each other, the limits of which depend on the situation which the frontal fissure, continued to the oral margin occupies in the developed imago; the form and mutual proportion in size of these parts are of the highest value in the classification and distinction of the species of Diptera. Beneath the antennæ there are in many Diptera longitudinal holes for their reception, the antennal furrows (*foveæ antennales*); the antennæ lie in them while the insect is still in the pupa case, sometimes even after its exclusion. That part of the head which lies on the side beneath the eyes is the cheek (*gena*).

The compound eyes are sometimes encompassed in a larger or smaller part of their circumference by a ring, somewhat swollen, and separated more or less distinctly from the remainder of the surface of the head; it is called the orbit (*orbita*), the successive parts of which may be called the anterior (*orbita anterior sive facialis*), inferior (*inferior s. genalis*), posterior (*posterior s. occipitalis*), superior (*superior s. verticalis*), and frontal (*frontalis*) orbits. An orbit is also often spoken of, where no ring is distinctly set off from the rest of the surface of the head; in this case a distinct color or some peculiar structure mark the nearest surroundings of the eyes.

The *oral parts* of Diptera, destined for sucking, are called the sucker or proboscis (*proboscis*). They are either inserted at the end of a more or less cylindrical prolongation of the head, called the snout (*rostrum*), or project from a wide aperture often occupying a great part of the under surface of the head, called the mouth hole (*cavitas oris*). The common, fleshy root of the oral parts is connected by a membrane with the border of the mouth. This membrane often has a fold, sometimes of a quite horny substance, and is then called the clypeus (*clypeus s. prælabrum*); it is either entirely concealed by the anterior border of the mouth and is then usually movable, or it projects over it as a ridge and is then usually immovable. The largest of the oral parts in most Diptera is the fleshy under lip (*labium*), consisting of the stem (*stipes*) and the knob (*capitulum labii*) formed by the two suctorial flaps (*labella*). Besides the under lip, the palpi (*palpi*) are most perceptible and must be noticed in the description of the species. The remaining oral parts are generally rather small and stunted, having the form of bristles or horny lancets; they are considered as being the tongue (*lingua*), under jaws (*maxillæ*), upper jaws (*mandibulæ*), and upper lip (*labrum*), the latter shutting the under lip from above. These parts are not easily applicable in distinguishing species.

The *thorax* of Diptera as well as that of other insects consists of three segments, the *prothorax*, the *mesothorax*, and *the metathorax*. But in the order of Diptera the development of the mesothorax exceeds so much that of the two other portions, that it forms by far the largest part of the whole thorax, and in the description of Diptera is exclusively designated with the latter name, while other names are given to the prothorax and metathorax, when some particular part of them is to be characterized. The prothorax being generally very little developed, sometimes forms a neck-like prolongation which bears the head, and is then called the neck (*collum*). Sometimes the fore corners of the mesothorax or the shoulders (*humeri*) are covered by a lobe of the prothorax (*lobus prothoracis humeralis*), distinctly separated from the mesothorax; but it is not unusual for this lobe to be so soldered to the mesothorax that it is not possible to discover a distinct limit between them, except in general, by their color or hairs; it is then called the shoulder callosity (*callus humeralis*). The prothorax sometimes also applies closely to the anterior border of the mesothorax, and has then the name of collar (*collare*). The mesothorax frequently has a transverse furrow (*sutura transversalis*) crossing the middle of its upper side and ending on each side a little before the base of the wing; its presence or absence as well as its form furnishes characters important in the classification of Diptera. On each side of the breast—the breast side (*pleura*)—there is beneath the shoulder a spiracle (*stigma prothoracis*) still belonging to the prothorax. To the back of the mesothorax applies the scutcheon (*scutellum*), separated from it by a furrow. Beneath the scutellum a part of the metathorax is to be seen, called *metanotum*, generally descending obliquely, often very convex, and on each side with a more or less inflated space, called the lateral callosity of the metanotum (*callus metanoti lateralis*). The poisers (*halteres*) have their origin beneath this callosity, and before either of them we see the spiracle of the metathorax (*stigma metathoracis*). The membranous covers which in many Diptera are found above this spiracle, have the name of covering scales (*tegulæ*).*

The *abdomen* is the third of the three principal parts of the body, but we usually so call its upper side only, the name of belly (*venter*) being given to the under side. The segments of the abdomen are of course, as in the other orders of insects, counted from the front to the back; but the anterior ones are often soldered together, while the posterior ones are stunted, and by their concealed situation withdrawn from the eye; much caution is therefore required in counting them. The statements about their number are frequently rather arbitrary and conventional, and often require an explanation. At the end of the abdomen we see in the male the appendages destined to take hold of the female in the copula

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* Some authors call them *squamæ*.—O. S.

(*hypopygium*), in the female the organ for laying the eggs (*ovipositor*); the former, if they have the form of pincers and are not bent under the belly, are called the pincers (*forceps*), the latter according to its form either the borer (*terebra*) or the style (*stylus*). Both organs are of the greatest importance in the distinction of species in many families, and their structure being generally very complicated and varying much in different families, deserves a most attentive study.

The *neuration of the wings* of Diptera forms so essential a foundation of their systematical arrangement and is so useful for the distinction of species, that its thorough knowledge and a scrupulous and accurate denomination of its single parts and of their mutual arrangement is quite indispensable. Our first and most important task will be to ascertain which parts of the neuration of the wings correspond to each other in the different families, since this is the only way to obtain a terminology in which corresponding things are designated by the same names, and which, therefore, is not liable to misinterpretation.

At a first and superficial glance, the neuration of the wings shows so different a structure in the various families of Diptera, that it seems impossible to reduce it to a common type. But, on a closer examination, we find that we can make out without much difficulty a common type existing in its greatest simplicity and plainness in the *Muscidæ*. The framework of the whole neuration of the wings is formed by the longitudinal veins (*venæ longitudinales*), which are connected with each other by the transverse veins (*venæ transversæ s. venulæ*). The longitudinal veins spring from four trunks, issuing from the base of the wings; the first and fourth trunks being the least developed, the second and third must be taken for the main trunks, and consequently the longitudinal veins originating from them, for the main longitudinal veins of the wing. To the anterior of these two main trunks belong three longitudinal veins, the foremost of which runs first parallel to the anterior border of the wing and joins it at a greater or less distance from the tip of the wing; it is called the first longitudinal vein (*vena longitudinales prima*). The second longitudinal vein proceeds from the first generally before the middle of the wing, and reaches the anterior border of the wing nearer to the tip. In a similar way the third longitudinal vein has, again, its origin from the second. To the second main trunk also belong three longitudinal veins, which are counted from the front to the back, and are called the fourth, fifth, and sixth longitudinal veins. The hindmost vein of the anterior main trunk and the foremost vein of the posterior main trunk, *i. e.* the third and fourth longitudinal veins, are connected by a transverse vein situated about the middle of the wing and called the small or middle transverse vein (*vena transversa minor s. media*). Using this transverse vein as a starting-point, we cannot easily have any doubt about the position of each of these six main longitudinal veins.

The remaining neuration takes place in the following way: The first of the four trunks emits a usually rather stout vein, forming the anterior border of the wing; it either runs round the whole border of the wing, attenuating a little towards its end, and is called the marginal vein (*vena marginalis*), or it only reaches as far as the fourth or third, sometimes even the second or first longitudinal veins, and is then generally called the costal vein (*vena costalis s. costa*); both these expressions can be used as identical without any fear of incorrectness. The costal vein is sometimes interrupted in one or more places, thus forming a number of successive portions, a structure most characteristic in several families. Besides this vein, a second one proceeds from the foremost of the four trunks, which, from its being frequently absent, is not counted with the other longitudinal veins, but is called the auxiliary vein (*vena auxiliaris*); not far from its base, it is connected by the transverse shoulder vein (*vena transversa humeralis*) with the costal vein. A total or partial absence of the auxiliary vein, its structure, and the peculiarities of situation which it has relatively to the first longitudinal vein, are very characteristic marks for the distinction of families and genera.

The first and second longitudinal veins are usually simple, the third being frequently forked; this furcation arises from its emitting beyond the small transverse vein an anterior branch, which generally runs to the border of the wing between the second and third longitudinal veins, and is therefore called the anterior branch of the third longitudinal vein. Both branches together form the fork of the third longitudinal vein, and that part of this vein which lies between the small transverse vein and the point of forking of both branches is called the handle (*pedunculus*) of this fork. Sometimes the foremost branch of the third longitudinal vein is connected with the second longitudinal vein by a transverse vein, or it runs into the second longitudinal vein instead of running to the border of the wing, and thus has the appearance of a transverse vein.

In most Diptera there is no other connection between the third and fourth longitudinal veins except the small transverse vein, and we can cross the wing between the third and fourth longitudinal veins in its whole length without meeting another vein but the small transverse vein. But in some families the fourth longitudinal vein, abandoning towards its end its former direction, turns to the third longitudinal vein and reaches it either at its end or a little before it, constituting thus a second connection: there is a rarer case when that connection is effected by a transverse vein placed distinctly on the fourth longitudinal vein. A third connection between the fourth longitudinal vein and the anterior main trunk is formed in some families in the neighborhood of the base of the wing; often there is only a transverse fold running obliquely from the fourth longitudinal vein to the first; in some families it incrassates into a transverse vein.

The three longitudinal veins belonging to the second main trunk usually begin to diverge quite near the base of the wing; the hindmost of them, *i. e.* the sixth longitudinal vein, is often distinctly seen as the continuation of the common trunk, while the two anterior ones uniting with their bases seem to form a kind of loop which touches the main trunk only at one point. As frequently, the fifth longitudinal vein represents a distinct continuation of the main trunk; in some families all the three longitudinal veins appear in equal distinctness as its branches. Between the fourth and the fifth longitudinal veins there are in general two transverse veins, which divide the space of the wing, included by the fourth and fifth longitudinal veins, into three parts. The first of these transverse veins is the anterior basal transverse vein (*vena transversa basalis anterior s. venula basalis anterior*), the absence of which is characteristic for some families; the second is usually the longest transverse vein of the wing and is of the highest systematic value; it is called the posterior transverse vein (*vena transversa posterior s. venula posterior*). Not unfrequently another vein starts from its middle, running to the border of the wing; it cannot be considered as a longitudinal vein, and is called the anterior intercalary vein (*vena intercalaris anterior*). It must not be confounded with a branch emitted in some Diptera from the posterior side of the fourth longitudinal vein before its tip.

Near the base of the fifth longitudinal vein rises the posterior basal transverse vein (*vena transversa basalis posterior s. venula basalis posterior*), usually a short transverse vein, running to the sixth longitudinal vein, but frequently meeting it only in a later part of its course at a very acute angle, or even reaching the border of the wing, without having met that vein; in all these cases it divides all the space of the wing lying between the fifth and sixth longitudinal veins into two parts. In several families there is, immediately beyond this transverse vein, another vein, the posterior intercalary vein (*vena intercalaris posterior*), which proceeds from the fifth longitudinal vein and runs to the border of the wing; sometimes it meets the fifth longitudinal vein before reaching the border.

In that part of the wing which is behind the sixth longitudinal vein, are spread the branches of the hindmost of the four trunks; it is entirely wanting in many Diptera, and exists in most of them only in a rudimentary state; therefore generally only one branch, or at the utmost two weak ones, not reaching the border of the wing, are perceptible; they are called the axillary veins (*venæ axillares*). Where the hindmost trunk is well developed, these veins become complete longitudinal veins; they best preserve the same name, but may be numbered as the seventh, and, where two exist, as the seventh and eighth longitudinal veins without any fear of misinterpretation. In the case of such a great development of this trunk, the foremost of the veins belonging to it is generally connected near its base with the sixth longitudinal vein by a transverse vein.

It results, from the foregoing exposition, that the anterior part of the wing is divided by the three longitudinal veins belonging to the anterior main trunk, and the posterior by the three longitudinal veins belonging to the posterior main trunk, each into three sections, an exterior one, a middle, and an interior one, while the three sections of the anterior part of the wing are separated from those of the posterior part by a middle stripe or band which extends from the base of the wing to its tip. It would be an easy task to invent fit names for these principal parts of the surface of the wing, from which convenient expressions would result for their single parts or the cells of the wings. But it seems to me that the introduction of such a new nomenclature would hardly promote our principal end, the agreement of authors in the use of terminological expressions, since it is not so much the nature of the received terms as the consent in their application which we must aim at. I therefore think it most advisable to retain such names for the denomination of the wing-cells, as are already in general use. But in adopting these names I cannot but mention that many of them do not seem to be well chosen, and that I accept them only with the intention of bringing about a terminology generally agreed upon.

I shall, therefore, call the cells belonging to the first section of the wing the costal cells (*cellulæ costales*), those of the second the marginal cells (*cellulæ marginales*), and those of the third the submarginal cells (*cellulæ submarginales*). The latter are of the greatest importance for characterizing families and genera, as well as for the distinction of species. When the second and third longitudinal veins are simple, and the third anterior section is consequently undivided, there exists only one submarginal cell; but when the third longitudinal vein has a branch running to the border of the wing, we count two such cells, an anterior and a posterior one; when the anterior branch of the third longitudinal vein is also connected with the second longitudinal vein by a transverse vein, the number of submarginal cells amounts to three, among which that, formed by the inner part of the anterior submarginal cell, is called the interior submarginal cell; when the anterior branch of the third longitudinal cell assumes the form of a transverse vein running to the second longitudinal vein, only an interior and an exterior submarginal cell are distinguished.

Among the existing names, none is well applicable as a common denomination either to the cells belonging to the middle of the wing or to those of each of the two first sections of the posterior part of the wing; I am compelled, therefore, though not without reluctance, to give up the application of such names. Among the cells of the portion just mentioned, there are three that have generally been too little noticed in the description of the neuration of the wing. Their different forms give very good characters, the more so as, on the whole, the differences, which the neuration shows in the neighborhood of the base and costal border, have always a higher systematic value than those occurring near the tip or the posterior border of the wing. Those three cells are placed nearest to the base of the wing; the first of them belongs to the middle of the wing, and reaches as far as the small transverse vein; the second belongs to the first section of the posterior part of the wing, and extends as far as the anterior basal transverse vein; the third belongs to the second section of the same part of the wing, and joins the posterior basal transverse vein. These three cells may, in general, be called the three basal cells (*cellulæ basales*). The foremost of them is generally much longer than the two others, a proportion which is usually indicated by the expression of "one large and two small basal cells;" against this mode of expression nothing can be objected, since it implies no uncertainty. It is, however, a little puzzling to invent a convenient term, when the posterior basal transverse vein, instead of running to the sixth longitudinal vein, assumes the character of a longitudinal vein, and runs to the border of the wing, so that the hindmost basal cell joins the border of the wing. Not only in this case, but also when the hindmost basal cell, though closed, is distinguished from the second basal cell by a much more considerable length, it is usually named the anal cell (*cellula analis*), and then, consequently, two basal cells are considered to be present. Badly chosen as the term "anal cell" may be, it is, nevertheless, so settled that it will be difficult to remove it by the introduction of a more convenient one. In certain families the great and very symmetrical development of the three basal cells is characteristic; they are then called the ternated cells (*cellulæ ternatæ*), which term, though expressive of the thing, seems to be superfluous. One of the most important cells is that belonging to the first section of the posterior part of the wing, and extending from the anterior basal transverse vein to the posterior transverse vein, and bearing the little transverse vein on its anterior margin; it is generally called the discoidal or discal cell (*cellula discoidalis*). When the anterior basal transverse vein is wanting, which is characteristic in many families and genera, this cell coalesces with the second basal cell, which then must be considered as a part of the discoidal cell; if the posterior transverse vein has disappeared, there is no discoidal cell at all. In those Diptera which possess the anterior intercalary vein, sometimes the part of the posterior transverse vein situated before or behind this intercalary vein is wanting, and in that case the existence of a discal cell is granted, which, in the former instance, is considered as anteriorly opened, in the latter, as posteriorly opened.

The second cell of the middle of the wing opening in its border, and those of the two first sections of the posterior part of the wing, are called the cells of the posterior margin, or posterior cells (*cellulæ posteriores*), and numbered as first, second, etc., beginning with that which belongs to the middle of the wing, and is limited at its base by the small transverse vein. It is evident that in all Diptera there are really only three posterior cells. They exist in their typical simple form in the *Muscidæ.* The first of them belongs to the middle of the wing, the two others to the first and second section of the posterior part of the wing. The first is usually subject to no partition, but is sometimes closed before reaching the border. The second is frequently divided in two portions by the presence of the anterior intercalary vein, and this happens whenever the fourth longitudinal vein emits a hind branch before its end; it even forms three portions when this branch exists along with the intercalary vein. In the genera having a posterior intercalary vein, a bipartition of the third posterior cell occurs. Though it would be very convenient to speak in all cases of only three such cells, and to point out in the way indicated the mode of their further partition, yet the ruling usage does not admit of this, but counts all these portions as successive posterior cells, whence their number sometimes amounts to six. When the second posterior cell and the discoidal cell are united in consequence of the absence of the posterior transverse vein, the cell formed in this way retains the name of second posterior cell.

The cells belonging to the third section of the posterior part of the wing are not, usually, completely separated from each other, and then are frequently termed the false cells (*cellulæ spuriæ*); a better term for them might be that of axillary cells (*cellulæ axillares*). They are numbered in the direction from the sixth longitudinal vein towards the posterior angle of the wing.

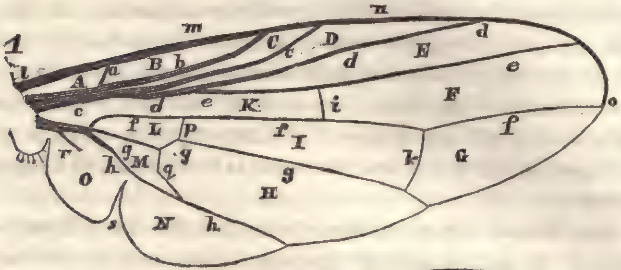
As for the expressions *costal border*, *tip*, *posterior border*, *posterior* or *anal angle* of the wing, they are understood by everybody. The posterior angle is terminated by the axillary incision (*incisura axillaris*) towards the base of the wing. The wings of many Diptera are provided with a lobiform appendage, the alar appendage (*alula*), reaching from the axillary incision to the innermost base; it must not be confounded with the covering scale that lies above the poisers, and which has often been called by the same name.

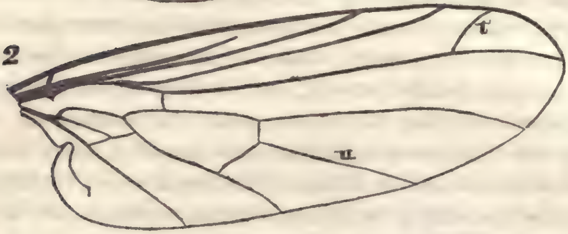
In order to understand a very intricate neuration and reduce it to the simple type, we must take care not to assume for parts of the same main vein all those ramifications which run in one direction. As threads loosely drawn up in a frame, when strongly strained by transverse threads of different length, must necessarily adopt an angular direction, so do longitudinal veins, in consequence of a varied situation and the length of the transverse veins. The outline of the wing, the length of the longitudinal veins, the situation and length of the transverse veins, as well as the area of the two membranes of the wing, stand in such a relation to each other that the wonderful effect of their hardening after the exclusion of the insect will be a surface more or less even, but in every case fit for the performance of flight, the main agents of which are apparently the anterior part of the wing, as being more stout and rigid, and its posterior part, which, being in most cases united with the former by the small transverse vein only, is more movable, and acts as an inclined plane, propelling the insect during the motions of the wings both up and down. It is in such genera only as *Syritta*, *Bombylius*, *Nemestrina*, the habits of which require not so much a rapid locomotion, as a constant hovering over a spot, that a multiplied connection of the anterior and posterior part of the wing by transverse veins restrains the mobility of the posterior part of the wing, and renders its propelling effect less sensible.

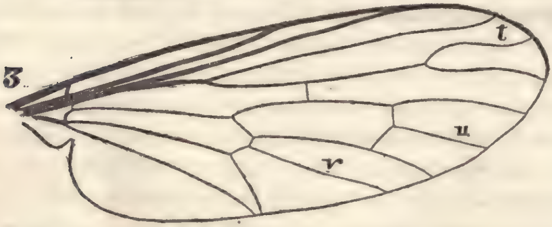
A correct understanding of a very intricate neuration is in many cases by far not so difficult as that of a very incomplete one. The latter will be best obtained by observing, that in such wings the three anterior trunks of the veins are not only incompletely developed, but also crowded together on the anterior part of the wing, an uncommonly large space being allotted to the fourth trunk. In this way, the striking narrowness of the anterior and middle parts of the wing and the extraordinary dilatation of the posterior part, find their explanation. Sometimes a closer examination of the surface of the wing will yield a useful result by our observing the different kind of hair peculiar to the veins, and which remains, though the veins themselves are wanting. All Diptera with very incomplete neuration are bad fliers, since the greater flexibility of the posterior part of their wings can but imperfectly compensate the propelling effect of this part when sustained by a stronger neuration.

The legs of diptera, like those of the other orders, consist of four principal parts, called the hips (*coxæ*), thighs (*femora*), shanks (*tibiæ*), and feet (*tarsi*). The hips consist of two joints; the second, smaller one, is called *trochanter*. The feet are generally five-jointed; the first joint is called *metatarsus*. At the tip of the last joint there are two claws (*ungues*), and under each of them there is generally a membrânaceous appendage called *pulvillus*. Besides these appendages, many families have between them a third single appendage of similar structure, which is called *empodium;* in other families this organ is bristle-like, or altogether wanting.

I have little to say about the expressions for the different characters of the surface and the clothing of the parts of the body of Diptera; I will observe only that the gradations hoary (*pruinosus*), dusted (*pollinosus*), mealy (*farinosus*), or pubescent (*pubescens*), hairy (*pilosus*), bristly (*setosus*), etc., in their application must be judged more according to a relative than an absolute scale, viz., in a family that has coarse hair the same is called hairy, which in another with fine hair is termed bristly, and so in similar cases. If we were not willing to do so, expressions would fail to point out the existing differences.







1. *Wing of Ortalis.*
   - *a*. Transverse shoulder-vein (vena transversa humeralis).
   - *b*. Auxiliary vein (vena auxiliaris).
   - *c*, *d*, *e*, *f*, *g*, and *h*. First, second, third, fourth, fifth, and sixth longitudinal veins (venæ longitudinales prima, secunda, tertia, quarta, quinta, et sexta).
   - *i*. Small or middle transverse vein (vena transversa minor s. media).
   - *k*. Hinder transverse vein (vena transversa posterior).
   - *l*, *m*, *n*, *o*. Costal vein (vena costalis).
   - *p*. Anterior basal transverse vein (vena transversa basalis anterior).
   - *q*. Posterior basal transverse vein (vena transversa basalis posterior).
   - *r*. Rudiment of the fourth trunk.
   - *s*. Axillary incision (incisura axillaris).
   - *A*, *B*, and *C*. First, second, and third costal-cells (cellulae costales prima, secunda, et tertia).
   - *D*. Marginal cell (cellula marginalis).
   - *E*. Submarginal cell (cellula submarginalis).
   - *F*, *G*, and *H*. First, second, and third posterior cells (cellulæ posteriores prima, secunda, et tertia).
   - *I*. Discal cell (cellula discoidalis).
   - *K*. First or large basal cell (cellula basalis prima s. major).
   - *L*. Second basal cell, or anterior of the small basal cells.
   - *M*. Third basal cell, or posterior of the small basal cells.
   - *N*. Anal or axillary corner of the wing (angulus analis s. axillaris).
   - *O*. Alar appendage (alula).
2. *Wing of Empis.*
   - *t*. Anterior branch of the third longitudinal vein (venae longitudinalis tertiae ramus anterior).
   - *u*. Anterior intercalary vein (vena intercalaris anterior).
3. *Wing of Dasypogon.*
   - *t*. Anterior branch of the third longitudinal vein.
   - *u*. Anterior intercalary vein.
   - *v*. Posterior intercalary vein.

DIPTERA

OF

NORTH AMERICA.

I.

SKETCH OF THE SYSTEMATIC ARRANGEMENT OF DIPTERA: WITH AN ENUMERATION OF THE GENERA HITHERTO RECORDED AS FOUND IN NORTH AMERICA.

Our knowledge of the Dipterological Fauna of North America has lately made rapid progress by the great attention paid to it by Baron Osten Sacken during his residence in Washington. As a preliminary to further investigations, he prepared, in 1858, for publication by the Smithsonian Institution, a Catalogue of the then described North American Diptera, which had the great and essential merit of nearly entire completeness. It çannot but be considered as a wise precaution that he did not enter upon a critical examination of the published species, as he well understood that such an examination could only be the work of the combined efforts of many persons, and the fruit of a long toil of years, and that consequently undertaking it would have indefinitely retarded the publication of such a catalogue, so desirable for the advancement of North American Dipterology. The impulse caused by Baron Osten Sacken's Catalogue is already evident, and it has proved a welcome and valuable assistance to every one attempting a more thorough study of North American Diptera, by an intelligible arrangement of the already published species, not only sparing him much laborious research, but also giving him the certainty of not overlooking a species already described. But although this Catalogue presents a survey of all papers hitherto published, and of the contributions of each author, it does not, and according to its plan could not, afford a survey of the North American *Fauna Dipterologica*, corresponding to the present state of systematic Dipterology; on the contrary, sketching such a survey is one of the tasks to which it looks forward to as one of the first fruits of its publication. It would be quite impossible to draw such a systematic survey of the hitherto known North American Diptera from the Catalogue itself, since it comprises the publications of the authors of different times and countries, of writers who had the most different systematic ideas and points of view, and since, in consequence of its plan, it could not but include such papers as are devoid of any solid knowledge of systematic Dipterology—to which, above all, the descriptions of Rob. Desvoidy, and, in a still higher degree, those of Mr. Walker belong. Consequently a survey of those families and genera which North America really possesses, is to be acquired in no other way than from the inspection and careful investigation of the species themselves. The rich collections of Baron Osten-Sacken have enabled me to examine a number of North American species sufficient to allow me to venture an essay of the kind indicated. In this survey I have adopted for the North American Fauna the same area as that of Baron Osten Sacken's Catalogue, the materials upon which I establish my work corresponding to this area. Still it cannot be denied, as far as I am able to judge, that this area, in its southern extent, reaches beyond the limits of the North American zoological province. In order to give a true, though of course not complete sketch of the North American Dipterological Fauna, I can, besides such species as I know by my own inspection, have regard only to those the systematic location of which is in no way doubtful.

For many years past all *Diptera* have been divided into two large sections, *Nemocera* and *Brachycera*. In the Diptera of the first section the antenna, having the fundamental form of a thread, consists of many joints, two of them being called the joints of the *scapus*, the following those of the *flagellum*. The latter are all of the same structure, although this structure varies in different species. The first joint of the flagellum, *i. e.*, the third of the whole antenna, is never so *distinguished* in size or structure that one might consider the succeeding joints as its accessorial appendages, nor is the connection of the joints (with the exception of the *Bibionidæ*, *Mycetophilidæ*, and a few others) such as might lead us to consider them as one, divided into several annuliform segments. In the second section, the *Brachycera*, the two joints of the scapus are likewise separated; the third joint, or first of the flagellum, usually differs by its remarkably developed size and its anatomical structure, causing it to be considered as a sensorial organ about the nature of which entomologists are not yet agreed. The succeeding joints of the flagellum are much reduced in size, generally very few in number, and often of unequal number in nearly related genera, or even in species of the same genus. They even disappear entirely in some genera (*e. g.*, in *Scenopinus*). If they are extant, they have usually the form of a style or bristle, the position of which, according to its nature, is in fact apical, although, from the development of the under side of the third joint, the bristle often seems inserted on its back, or even, in some instances, in the immediate vicinity of the base itself. In the genera, in which the first joint of the flagellum is not of a remarkable size, the following joints are generally more numerous, and either all or the greater part of them share the peculiar organization showing their function to be that of a sensorial organ. They are applied at the same time so closely to the first joint of the flagellum, that we are compelled to consider all of them together as one, divided into several segments, or the terminal one as a style or bristle of a single joint, formed by the other joints of the flagellum. Consequently the essential difference between the sections *Nemocera* et *Brachycera* is this, that in the latter the number of joints of the flagellum is not only smaller, but also that the lower joint, sometimes a few joints, always the lower ones, rarely all, have a more distinct development, and at the same time a peculiar anatomical structure undoubtedly proving their function to be that of a sensorial organ.

It cannot be denied that those families of *Brachycera* in which several of the joints of the flagellum are so soldered together as to form one compound and annulated mass, stand nearest to the section of *Nemocera*, and that amongst these families the *Xylophagidæ* must be placed immediately on the limit of both sections. It is more difficult to point out a family of *Nemocera*, which comes nearer to the section of Brachycera than all the others; in general the families of *Rhyphidæ* and *Bibionidæ* may be considered as those to which this station must be assigned. It is a fact that some discoveries made in modern times have obliterated to a certain degree the sharpness of the limit which was considered to exist between the sections of *Nemocera* and *Brachycera*. The fact known long ago, that in some genera of *Stratiomydæ* and *Tabanidæ* the joints of the flagellum not being closely compressed, do not form a compact joint, has been rather neglected in this respect, perhaps because the *Stratiomydæ* and *Tabanidæ*, by their whole organization, are rather remote from the *Nemocera*, and have so strikingly peculiar characters as individual families, that their comparison with the *Nemocera* has scarcely been thought of. The case was different when a similar structure was observed in the family of *Xylophagidæ*. After I had myself first pointed out the genera *Electra* and *Chrysothemis*, discovered by me in Prussian amber, Mr. Haliday found the still more surprising North American genus *Rachicerus*. I shall have hereafter to mention a second North American genus of *Xylophagidæ*, which has the flagellum of the antennæ not annulated, but really many-jointed. All these facts, however, are not sufficient to compel us at present to give up the separation of the *Nemocera* and *Brachycera*.

Many authorities have likewise objected to uniting under the head of *Brachycera* all those families which cannot be referred to the *Nemocera*, especially and with the fullest reason, to the union of the *Hippoboscidæ* with the other *Brachycera*, since both the history of their development and their internal and external anatomy essentially differ from them. They can only be considered as a third section, co-ordinate to the *Nemocera* and *Brachycera*, and having the same systematic value, and may be named *Coriacea*, or they may be opposed to the other two together as equivalent, and consequently be comprised under the name of *Eproboscidea*, that of *Proboscidea* being left to the two other sections. I intend to follow the first of these two arrangements.

Of the families which I shall hereafter enumerate as belonging to the *Brachycera*, the *Phoridæ* alone have occasioned some doubts about their title to this place, founded, if I judge correctly, on the abnormal structure of their antennæ; these are considered as one-jointed, with the terminal bristle consisting of several joints. Judging by the anatomical structure, I for my part am unable to see in the joint, which is pre-eminently developed and forms the main body of the antennæ, more than the first joint of the flagellum, its peculiarity arising from the soldering together and stunting of the two joints of the scapus, the covering of which is moreover less horny than in the other families of *Brachycera*. This difference, surprising as it is, does not seem to me to have systematic importance enough to require a separation of the *Phoridæ* from the remaining *Brachycera*, and the less so as similar deviations, though not nearly of so striking a nature, also occur in other families. I mention, as an instance, the remarkably stunted second joint of the antennæ in the genus *Haltericerus* Rond. among the *Dolichopidæ*.

I. NEMOCERA.

FAM. I. CULICIDAE.

Charact.—Ocelli none. Thorax without transverse suture. Costal vein continued round the margin of the wing, fringed with scales; veins in their last subdivisions more than six in number.

This family, rich in species, comprises only a small number of genera. As such, the old well-known genera CULEX, AËDES, ANOPHELES, and CORETHRA are to be named first, being those among which Meigen has distributed the European species. To them may be added the genera MEGARHINA, PSOROPHORA, and SABETHES, separated from *Culex* by Rob. Desvoidy, the two last being scarcely tenable, whereas *Megarhina* is acknowledged as holding good. The genus MOCHLONYX, established by me, is very near to *Corethra*, differing, however, by the abbreviation of the first tarsal joint.

Species of the genera CULEX and ANOPHELES occur over all parts of N. A., whereas MEGARHINA and PSOROPHORA are only represented by single species belonging, as it seems, more to the South, as is also CORETHRA by *C. punctipennis* Say.

FAM. II. CHIRONOMIDAE.

Charact.—Ocelli none. Thorax without transverse suture. Wings without vein along the posterior margin; costal vein ending near the tip of the wing.

This family is not much richer in genera than that of the *Culicidæ*, but far more so in species. It contains the old and well-established genera CHIRONOMUS, TANYPUS, and CERATOPOGON, to which have been added the genera HYDROBÆNUS Fries (= *Corynocerus* Ruthe), DIAMESA Meig., CORYNONEURA Winn., and CLUNIO Hal., which is so remarkable by the habitation of its larva. The species of *Ceratopogon* exhibit a good deal of varied organization. A division into a number of smaller genera, which is indispensable, has been attempted, but not executed in a satisfactory manner, and the genera LABIDOMYIA Steph., CULIOCIDES Latr., PALPOMYIA Meig., SPHÆROMIAS Steph., and PRIONOMYIA Steph. can be only considered at present as sub-genera of *Ceratopogon.* The genus THALASSOMYIA Schin. has been separated from *Chironomus.* Also the genus MACROPEZA Meig. must be united with the *Chironomidæ,* and Macquart is right in having done so in his "Diptères exotiques." The genus ORPHNEPHILA Hal. (= *Thaumalea* Ruthe = *Chenesia* Macq.) differs from all the other *Chironomidæ* by the veins of the wings running without attenuation to, and the costal vein being continued round, the posterior border. If we do not establish a separate family for it, its proper place will be here, but as an anomalous genus.

The genera CHIRONOMUS, TANYPUS, and CERATOPOGON are largely represented in N. A.; the most interesting are the species of *Ceratopogon. Heteromyia* Say belongs here. Of the remaining genera, I have seen only one N. A. species, which belongs to the genus ORPHNEPHILA, and does not seem to differ from *O. testacea* Ruthe.

FAM. III. CECIDOMYIDAE.

Charact.—Ocelli often none. Thorax without transverse suture. Coxæ not elongated, femora not thickened, tibiæ without spurs. Wings having only few longitudinal veins.

It is rather difficult to define sharply this most interesting family, and consequently to characterize it exactly. It contains a very large number of extremely delicate and elegant minute species, remarkable by long and easily rubbed off hairs on the wings and the other parts of the body. The limits between the families *Cecidomyidæ* (Gall-gnats) and *Mycetophilidæ* (Fungus-gnats) are not very easily fixed, since *Zygoneura* Meig. shows a combination of the characters of both; the coxæ being far less elongated and the spurs of the tibiæ far shorter than in any other genus of *Mycetophilidæ;* moreover, the antennæ are moniliform with verticillate hairs, as is frequently the case in the *Cecidomyidæ* and never so among *Mycetophilidæ.* But the total habitus of the *Zygoneuræ* being more like that of the former than of the latter, and the tibial spurs being so very short, that in some species they can only be discovered by the closest scrutiny, I think I may be justified if I add them to the *Cecidomyidæ,* though in many respects they agree with the genus *Sciara,* which has its natural place among the *Mycetophilidæ.*

The whole family is divided into two sections. The first of these, the CECIDOMYINA, have on the wings four longitudinal veins, the two last of which often coalesce in the beginning of their course, or are more or less incomplete. They have no ocelli, and the first joint of their tarsi is much shortened. The genera belonging here are: HORMOMYIA *Loew,* DIPLOSIS *Loew,* CECIDOMYIA *Latr.,* ASPHONDYLIA *Loew,* DIRHIZA *Loew,* COLPODIA *Winn.,* EPIDOSIS *Loew,* ASYNAPTA *Loew,* LASIOPTERA *Meig.,* and CLINORHYNCHA *Loew.* In the genera of the second section, the ANARETINA, between the second and third of those veins of the wings which the first section possesses, another longitudinal vein is inserted, being simple only in Campylomyza, while it is furcate in all the other genera; the first tarsal joint is not shortened, and in all genera, with the single exception of *Cecidogona,* there are distinct ocelli. To this section belong: CAMPYLOMYZA *Meig.,* CECIDOGONA *Loew,* ANARETE *Hal.,* CATOCHA *Hal.* (= *Macrostyla* Winn.), LESTREMIA *Macq.* (= *Diamesa* Meig.), and ZYGONEURA *Meig.*

I have omitted here the genera HETEROPEZA *Winn.* and SPANIOCERA *Winn.,* not having had an opportunity of examining specimens. *Heteropeza* seems to harmonize in many points with the genera of the first section, but differs very strikingly by the totally different structure of its tarsi. Rondani has established in this family a good number of genera, which are, however, quite unavailable, since the observations on which they are founded are too inexact.

Very little information has thus far been published respecting the *Cecidomyidæ* of N. A. Most of the species sufficiently described belong to the genus *Cecidomyia* in its restricted sense, as is now in use; viz: *Cec. destructor* Say, *salicis* Fitch, and *tritici* Kirby; *Cec. grossulariæ* Fitch ought, as it seems, to be referred to the genus ASPHONDYLIA; some fine species of the genera DIPLOSIS and LASIOPTERA occur there. Out of the second section I have seen species of the genera CAMPYLOMYZA, ZYGONEURA and LESTREMIA. Of a new genus belonging to the same section, I have seen only one incomplete individual.

FAM. IV. BLEPHAROCERIDAE.

Charact.—Ocelli three. Wings very ample, naked (*i. e.* with hairs only perceptible under a very highly magnifying lens), with cracks caused apparently by folding; no discoidal cell. Posterior tibiæ with stout spurs, anterior tibiæ unarmed.

The genus BLEPHAROCERA *Macq.* cannot, except by the utmost constraint, be included in any of the existing families. Its nearest relation is the Ceylanese genus TANYRHINA *Loew.* I unite these two genera in one small family, the name of which I derive from the older of the two. The *Blepharoceridæ* differ from the *Cecidomyidæ* by the stout terminal spur of their posterior tibiæ, from the *Mycetophilidæ* by their coxæ not being elongated, from the *Bibionidæ* by the want of an empodium and pulvilli, and by the very little development of their prothorax. In the form and tissue of their wings they are most nearly allied to the *Simulidæ*, but by the existence of ocelli, and by the long slender legs, they seem to me to differ from them too much to be reunited with them. The neuration of their wings is rather similar to that of the *Cecidomyidæ;* but *Blepharocera* has some more longitudinal veins, and thus its neuration resembles that of *Macropeza.* Besides the longitudinal veins, the wings show some fine cracks, perfectly similar in both, and looking as though produced by the expansion of the wings, which had previously been folded; this mark is peculiar to them, pointing to some peculiarities in their transformation unfortunately still unknown; some certainty about the place due to them in the system may, therefore, be expected from the knowledge of their earlier stages.

I know only one N. A. species of BLEPHAROCERA very much resembling that species which is spread over a great part of Europe. *Blepharocera americana* Walk. neither belongs to this genus, nor even to this family.

FAM. V. PSYCHODIDAE.

Charact.—No ocelli. Body with long, coarse hairs. Thorax without a transverse suture. Tibiæ without spurs. Wings everywhere with long coarse hairs, many longitudinal veins, and only a few transverse veins; no discoidal cells.

The genera of *Psychodidæ*, on account of their neuration, form two sections; in the first, the PSYCHODINA, there are, between the furcate longitudinal veins common to all genera, two simple longitudinal veins. The genera of this section are: PSYCHODA *Latr.*, PERICOMA *Hal.*, ULOMYIA *Hal.* (= *Saccopteryx* Hal. ol.), POSTHON *Loew*, and NYGMATODES *Loew* (= *Nemapalpus* Macq.). In the second section, the PHLEBOTOMINA, we see only one longitudinal vein between the two furcate veins. The genera belonging here are: PHLEBOTOMUS *Rond.* (= *Hæmasson* Loew), TRICHOMYIA *Hal.* (= *Phalænomyia* Loew), SYCORAX *Hal.*, DIPLONEMA *Loew*, and PHILÆMATUS *Loew*.

The small number of N. A. *Psychodidæ* I have seen, belong without exception to the genera PSYCHODA and PERICOMA. In Europe there have been discovered besides the genera *Ulomyia*, *Phlebotomus*, *Trichomyia*, and *Sycorax*. From the smallness and fragility of *Psychodidæ*, it may easily be conceived why so few N. A. species have still been detected.

FAM. VI. TIPULIDAE.

Charact.—No ocelli.* Thorax with a V-shaped transverse suture. Legs very elongated; the basal cells of the wings reaching beyond the middle; discal cell existing in most of the genera.

The want of ocelli, the considerable length of the legs as well as of the basal half of the wings (the latter cause producing a prolongation of the basal cells beyond the middle of the wing), are the most essential characters of this family. Moreover, the V-shaped transverse suture of the thorax is of the greatest value, since only the anomalous genera DIXA *Meig.* and CHIONEA *Dalman* are destitute of it. It does not seem natural to attribute to the former genus, on account of this circumstance, any other place but among the *Tipulidæ*. The abnormal structure of the thorax in the wingless genus *Chionea* is less surprising, its form depending chiefly on the situation and size of the alary muscles, and, however it may differ in some respects from all the other genera of *Tipulidæ*, it would be still more inconveniently located in any other family. Whether the genus POLYMERA *Wied.*, which is distinguished by its moniliform antennæ and the basal cells not reaching to the middle of the wings, may be placed among the *Tipulidæ*, appears doubtful. I should have thought it belonged to the tribe *Psychodidæ*, had not Macquart figured the thorax of *Polymera fusca* with a distinct V-shaped transverse suture.

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* Except in *Trichocera*, where they exist. O. S.

The variety of forms prevailing in the family of *Tipulidæ* has caused the foundation of a rather large number of genera. In order to facilitate the description of the new species and the identification of the described ones, a considerable increase of the number of genera is indispensable.

On the whole, the *Tipulidæ* may be divided into two sections, the TIPULINA having long, and the LIMNOBINA having short palpi. This division, indeed, is no natural one, since some genera with long palpi agree in all the rest of their organization more with the genera of the second than of the first section.

The genera of *Tipulidæ* hitherto established, as I know them by sight, or, in part, by the definitions of their authors, may be distributed as follows. To the *Tipulina* belong: TIPULA *Linn.*, PRIONOCERA *Loew*, PACHYRHINA *Macq.*, NEPHROTOMA *Meig.*, CTENOPHORA *Meig.*, DOLICHOPEZA *Meig.*, OZODICERA *Macq.*, CTENOGYNA *Macq.*, GYNOPLISTIA *Westw.*, PTILOGYNA *Westw.*, MEGISTOCERA *Wied.*, APEILESIS *Macq.*, PTYCHOPTERA *Meig.*, MACROCHILE *Loew*, PROTOPLASA *O. S.*, PTEROCOSMUS *Walk.*, HESPERINUS *Walk.*, BITTACOMORPHA *Westw.*, and RHAMPHIDIA *Meig.* To the section of *Limnobina* must be referred: LIMNOBIA *Meig.*, GLOCHINA *Meig.*, RHIPIDIA *Meig.*, GERANOMYIA *Hal.* (= *Aporosa* Macq.), DICRANOMYIA *Steph.*, ANTOCHA *O. S.*, ELEPHANTOMYIA *O. S.*, LIMNOBIORHYNCHUS *Westw.* (= *Toxorhina* Loew), DICRANOPTYCHA *O. S.*, TEUCHOLABIS *O. S.*, ERIOPTERA *Meig.*, SYMPLECTA *Meig.*, CRYPTOLABIS *O. S.*, GONOMYIA *Meg.*, GNOPHOMYIA *O. S.*, CLADURA *O. S.*, TRICHOCERA *Meig.*, CYLINDROTOMA *Meig.*, ANISOMERA *Meig.*, ARRHENICA *O. S.*, ERIOCERA *Macq.*, DICRANOTA *Zett.*, ULA *Hal.*, AMALOPIS *Hal.*, TRICYPHONA *Zett.*, EVANIOPTERA *Guér.*, PEDICIA *Latr.*, LIMNOPHILA *Macq.*, EPIPHRAGMA *O. S.*, DICRANOPHRAGMA

O. S., IDIOPTERA *Macq.*, LASIOMASTIX *O. S.*, DACTYLOLABIS *O. S.*, PRIONOLABIS *O. S.;* as *Limnobina* may also be mentioned the fossil genera which have been found in Prussian amber: TRICHONEURA, CALOBAMON, HAPLONEURA, CRITONEURA, TANYMERA, TANYSPHYRA, STYRINGOMYIA, ATARACTA, and ALLARITHMIA. As genera of doubtful location we may add the genus POLYMERA *Wied.*, and the anomalous genera DIXA *Meig.* and CHIONEA *Dalm.*

We know as genera of *Tipulina* occurring in N. A. the following: TIPULA, PACHYRHINA, CTENOPHORA, PTILOGYNA, PTYCHOPTERA, PROTOPLASA, HESPERINUS, BITTACOMORPHA, and RHAMPHIDIA. About the genera and species of *Limnobina* indigenous in N. A., Baron Osten Sacken, in the Proceedings of the Academy of Natural Sciences of Philadelphia, 1859, has published a detailed and valuable paper, which enters into a more complete and thorough exposition of the system of this section than is possible for me to give here. I must, therefore, refer to this paper. The species enumerated in it, most of which are new, belong to the following genera: *Limnobia*, *Rhipidia*, *Geranomyia*, *Dicranomyia*, *Antocha*, *Elephantomyia*, *Limnobiorhynchus*, *Dicranoptycha*, *Teucholabis*, *Erioptera*, *Symplecta*, *Cryptolabis*, *Gonomyia*, *Gnophomyia*, *Cladura*, *Trichocera*, *Anisomera*, *Arrhenica*, *Eriocera*, *Dicranota*, *Ula*, *Amalopis*, *Pedicia*, *Limnophila*, *Epiphragma*, *Dicranophragma*, *Idioptera*, *Lasiomastix*, *Dactylolabis*, and *Prionolabis;* also *Dixa* and *Chionea* are recorded as N. A. genera.

Note.—The special attention which I have, for several years, paid to the family of *Tipulidæ* may serve as an excuse for my expressing here my views on its distribution. Although these views are founded merely on the study of the species of this continent, the new character which I introduce for the definition of the two principal sub-families may also prove useful for the classification of the *Tipulidæ* of other countries.

I divide the American species of *Tipulidæ*, at present known, into three sub-families, as follows:—

I. *The auxiliary vein ends in the first longitudinal vein;* besides the humeral cross vein, there is no other cross vein between the auxiliary vein and the first longitudinal vein or the costa; last joint of palpi very long, filiform, generally longer than the three preceding taken together. TIPULINA.

II. *The auxiliary vein ends in the costa;* there is a cross vein between it and the second longitudinal vein, generally more or less approximated to the tip of the *first* longitudinal vein, sometimes more removed from it towards the base of the wings; palpi in most cases short; last joint either very short, or, if elongated, hardly longer than the three preceding taken together LIMNOBINA.

III. Sixth longitudinal vein (*anal* vein of the former authors) obsolete. PTYCHOPTERINA.

The two first large groups are further distinguished by the structure of the genital organs of the male, which, in most of the *Limnobina*, are represented by a forceps, consisting of two movable, fleshy lobes, with some delicate horny appendages; whereas in the *Tipulina* the forceps is a very compound organ, consisting of manifold horny pieces, which, being inclosed between the dorsal and ventral plates of the two last abdominal segments, produce the club-shaped appearance peculiar to the tip of the ♂ abdomen of this sub-family.

Thus founded, not on a single character, but on a combination of characters taken from various organs, the definition of the two great sub-families hardly leaves any doubtful case among the *Tipulidæ* which I know of. If one character fails to give a satisfactory result, the others will generally remove at once any doubt as to the relationship of the species. Thus, the last joint of the palpi of *Pedicia* is unusually long; but the auxiliary vein, ending in the subcosta, and the presence of a cross vein between it and the second vein, immediately refer it to the *Limnobina*, where this genus naturally belongs on account of its habitus. (I have neglected to examine this last joint in fresh specimens of *Pedicia*, but it appears very probable that its disproportion with the other joints is far from being so striking as is the case in the *Tipulina*.)

In *Rhamphidia*, the last joint of the palpi is represented by former writers to be elongated. I had no occasion to ascertain, on living specimens, how far this is correct. But the presence of the cross vein places this genus among the *Limnobina*, where it naturally belongs by its habitus. And even if this character should not be considered as sufficient, on account of the extreme shortness of the cross vein, placed at the very tip of the auxiliary vein, the structure of the male genitals removes all doubt.

In some *Pachyrhinæ* there is, near the tip of the auxiliary vein, a blackish dot, which might perhaps be mistaken for a cross vein. But should it even be considered as a rudiment of one, the length of the last joint of the palpi, the structure of the male genitals, etc., assign its place among the *Tipulina*, where its habitus most evidently refers it.

In the singular genus *Antocha* O. S. the costa and the auxiliary and the first longitudinal veins coalesce insensibly together, so that there is no room left for a cross vein. In this case, the shortness of the palpi and the structure of the male genitals decide of its location among the *Limnobina*.

I refer to my sub-family of *Ptychopterina* the genera *Ptychoptera*, *Bittacomorpha*, and *Protoplasa* (with its congener *Macrochile* Loew). As to the distribution of the other genera among the two remaining sub-families, I agree with Mr. Loew, with the following exceptions:—

Rhamphidia, as shown above, is more related to the *Limnobina* than to the *Tipulina;* by all means it ought not to be separated from *Elephantomyia*, as Mr. Loew does it. In my paper on the *Limnobina* of this country, I have explained the close relationship of both. *Elephantomyia* is nothing but a *Rhamphidia* with an enormously prolonged rostrum, the development of which has also modified the character of the palpi inserted at its tip. (*Geranomyia*, with its long rostrum and stunted palpi, stands precisely in the same relation to *Dicranomyia*.)

Gynoplistia Westw. (an Australian genus) and *Polymera* Wied., both of which I know only from plates and descriptions, belong, I presume, to the *Limnobina*.

Hesperinus, Walk. belongs to the *Bibionidæ* (see my note in that family).

About *Pterocosmus* Walk. I have no opinion whatever, not having seen it, and not being able to establish any opinion on the description.

To the list of genera already found in North America, I have to add *Dolichopeza*, *Nephrotoma*, and probably *Cylindrotoma*, as I possess a species apparently closely allied to the latter. Finally, it is the place here to notice that Mr. Westwood (Lond. and Edinb. Philos. Magaz., 1835) has described a *Gynoplistia annulata* from North America. As it is hardly probable that an Australian genus should also be represented on this continent, it is to be presumed either that the genus is different, or that the statement is based upon an error of locality. *Gynoplistia* has pectinated antennæ in both male and female.

Osten Sacken.

Fam. VII. MYCETOPHILIDAE.

Charact.—Ocelli three or two, in the latter case often hardly perceptible. Thorax without a transverse suture; wings without discal cell. Coxæ much elongated; all the tibiæ with spurs.

On the whole, the *Mycetophilidæ* are so easily known that it would be superfluous to give any more details about them. The genus differing the most from the rest is *Sciara*, which shows some affinity with the *Cecidomyidæ*.

The genera hitherto introduced in this family are the following: Cordyla *Meig.* (= *Brachypalpus* Macq.), Mycetophila *Meig.*, Azana *Walk.*, Leja *Meig.*, Boletina *Staeg.* (= *Leptomorphus* Walk.), Sciophila *Meig.*, Sciobia *Loew*, Tetragoneura *Winn.*, Gnoriste *Meig.*, Asindulum *Latr.* (= *Macrorhyncha* Winn.), Ceroplatus *Fabr.*, Leptomorphus *Curt.*, Diadocidia *Ruth.* (= *Macroneura* Winn.), Aclada *Loew*, Mycetobia *Meig.*, Plesiastina *Winn.*, Ditomyia *Winn.* (*Symmerus* Walk.), Platyura *Meig.*, Platyroptilon *Westw.*, Macrocera *Meig.*, Bolitophila

Meig. (= *Messala* Curt.), HETEROTRICHA *Loew*, DIANEPSIA *Loew*, SCIARA *Fabr.*, and the genus DIOMONUS *Walk.*, which is unknown to me. I have not mentioned the genus SYNAPHA *Meig.*, because it seems to have been founded on an individual of a species of *Leja*, which possessed an irregularly formed neuration; at least as far as I know, no second specimen of *Synapha* has been captured since Meigen's time, while a similar anomaly of neuration of the wings has been observed several times in other Diptera.

Our knowledge of N. A. *Mycetophilidæ* is exceedingly incomplete. I have seen species of the genera MYCETOPHILA, BOLETINA, SCIOPHILA, TETRAGONEURA, PLESIASTINA, DITOMYIA, PLATYURA, MACROCERA, BOLITOPHILA, and SCIARA. Besides these, the existence of CEROPLATUS seems to be certain, and the genus DIOMONUS, which I have never seen, is founded on a N. A. species.

FAM. VIII. SIMULIDAE.

Charact.—Ocelli none. Thorax without transverse suture. Wings with very short hair only visible under a very high magnifying power; legs short, tibiæ without spurs; posterior tibiæ and first joint of the hind tarsi dilated.

The present family comprises only the genus SIMULIUM *Latr.*, rich in species and which cannot be placed in any other family. It does not seem to be less rich in species in N. A. than in Europe.

FAM. IX. BIBIONIDAE.

Charact.—Ocelli three. Thorax without transverse suture; prothorax much developed. Wings without discal cell; coxæ not prolonged; empodium proportionally long, whereas the pulvilli are wanting in some of the genera.

The family of *Bibionidæ* is divided into two sections sharply separated from each other, and which it would be proper to consider as distinct families. In the SCATOPSINA, which form the first section, the palpi are very short, the pulvilli wanting, the tibiæ without spurs; the genera belonging to them are: SCATOPSE *Geoffr.*, ASPISTES *Meig.*, ARTHRIA *Kirby.* To the second section, the BIBIONINA, belong: DILOPHUS *Meig.*, BIBIO *Geoffr.*, PENTHE-

TRIA *Meig.*, CRAPITULA *Gimm.*, PLECIA *Wied.*, EUPEITENUS *Macq.*, PACHYNEURA *Zett.*, and SPODIUS *Loew.*

Species of the genera SCATOPSE, ARTHRIA, DILOPHUS, BIBIO, PLECIA, and EUPEITENUS are known to occur in N. A.

Note.—At the time when this was written by Mr. Loew, neither he nor I possessed specimens of the genus *Hesperinus*, which its author, Mr. Walker, referred to the *Tipulidæ.* Having obtained specimens since, collected by Mr. R. Kennicott near the Great Slave Lake, I found that *Hesperinus* belongs to the *Bibionidæ*, and is apparently synonymous with *Spodius* Loew. Accordingly, *Hesperinus* Walk. is to be added to the genera of this family occurring in N. A., and stricken out from among the *Tipulidæ.* O. S.

FAM. X. RHYPHIDAE.

Charact.—Ocelli three. Thorax without transverse suture; wings with a perfect discal cell; empodium similar to a pulvillus; pulvilli wanting.

Of this family also a single genus, RHYPHUS *Meig.*, is known, which has representatives in Europa, Asia, and N. A.

Observation.—There is a genus *Epidapus* Hal., remarkable for having no wings and no poisers, which I have omitted in the preceding enumeration of families, because I do not know it. It is quite impossible to place it among the *Mycetophilidæ*, as Walker does, if we characterize the families as we have done. It rather seems to find its place among the *Cecidomyidæ;* but there is nothing decisive to be said without the examination of fresh specimens.

II. BRACHYCERA.

FAM. XI. XYLOPHAGIDAE.

Charact.—The three basal cells very prolonged, the third longitudinal vein furcate; both intercalary veins always present; the marginal vein encompassing the whole wing; the third joint of the antennæ annulated or divided into separate joints, always without style or terminal bristle. Tibiæ with spurs; the empodium very developed and pulvilliform.

The genera belonging here are: XYLOPHAGUS *Meig.*, PACHYSTOMUS *Latr.*, SUBULA *Meig.*, ELECTRA *Loew*, CHRYSOTHEMIS

Loew, RACHICERUS *Hal.*, COENOMYIA *Latr.*, and ARTHROPEAS *Loew.* The new genera CYCLOTELUS, PHYCUS, and DIMASSUS, established by Walker as belonging to the *Xylophagidæ*, belong in fact to the *Therevidæ;* likewise NONACRIS must be removed here, but Walker's observations on its characters are far too superficial to admit of any certainty in fixing its place; also DIALYSIS on account of the hairy, bristle-like antennal tip ascribed to it by Walker might seem to be erroneously located among the *Xylophagidæ*, the characters of which he appears not to have understood.

Cœnomyia Latr. has often been separated from the *Xylophagidæ* and considered as forming a distinct family: *Cœnomyidæ*, or formerly *Sicarii.* This seems to have been caused by the body of *Cœnomyia* being stout, whereas that of *Xylophagus* and *Subula* is of a slender form. Moreover, the different form of the palpi, which in *Cœnomyia* are rather cylindrical and ending in *Xylophagus* and *Subula* in a button-shaped thickening, have been made use of to justify the separation. But within a recent time forms of *Cœnomyidæ* have been discovered in which the structure of the body and palpi is such as to form a link between them and the *Xylophagidæ;* from this, as well as from the agreement of their other essential characters, results the necessity of reuniting them. In case the separation should be maintained, *Arthropeas* ought to be placed among the *Cœnomyidæ.*

The family of *Xylophagidæ* may be divided into three sections: CŒNOMYINA, RACHICERINA, and XYLOPHAGINA. The *Cœnomyina* are characterized by their robust structure, the third joint of the antennæ being annulated and pointed towards its end, the palpi being cylindrical. The genera comprised here are CŒNOMYIA and ARTHROPEAS. In the *Rachicerina* the third joint of the antennæ is divided into separate and frequently very numerous articulations, and the palpi are rather club-like; the body is less heavy than in the *Cœnomyina*, but less slender than in the *Xylophagina.* The genera ELECTRA, CHRYSOTHEMIS, and RACHICERUS belong here. The *Xylophagina* have the slenderest bodies; the third joint of the antennæ is annulated and never strikingly pointed; the palpi have at their end a button-shaped thickening. The genera SUBULA, XYLOPHAGUS, and PACHYSTOMUS may be referred here.

I am acquainted with N. A. species belonging to the genera CŒNOMYIA, ARTHROPEAS, RACHICERUS, SUBULA, and XYLOPHAGUS.

Two of the species of RACHICERUS cannot be well placed in this genus without a modification of its characters.

Observation.—I have to mention here the genus BOLBOMYIA, which I established on two fossil species found in Prussian amber. When I published in 1850 my observations on the Dipterological Fauna of amber, I thought it would be best placed among the *Xylophagidæ.* But I perceive from a N. A. specimen belonging to *Bolbomyia* that its claim to that place is more than doubtful, and at the same time that it is quite as difficult to assign it a fit place elsewhere.

FAM. XII. STRATIOMYIDAE.

Charact.—Three basal cells much prolonged; veins of the two main trunks very crowded anteriorly; both intercalary veins usually existing; costal vein reaching only to the middle of the wing. Third joint of the antennæ annulated, sometimes divided into several portions. Tibiæ without spurs; empodium much developed, pulvilliform.

This family, rich in various forms, may be divided into five sharply circumscribed sections. The first is that of the BERIDINA, easily distinguished by the abdomen not showing five segments, as in the other sections, but seven, a difference caused only by the smallness of the two last segments and their concealed situation in the other sections. The *Beridina* have often been placed in the family of *Xylophagidæ,* but figure more naturally among the *Stratiomyidæ.* The genera belonging to them are: METOPONIA *Macq.* (= *Inopus* Walk.), BERIS *Latr.*, ACTINA *Meig.*, EXODONTHA *Rond.*, ACANTHOMYIA *Sch.*, DIPHYSA *Macq.*, CAMPEPROSOPA *Macq.*, perhaps also EXOCHOSTOMA *Macq.;* also the genus CHIROMYZA *Wied.*, which does not differ from *Xenomorpha* Macq., may be referred to them. The second section is that of SARGINA, rather agreeing in the form of the body with the *Beridina,* and even with the *Hermetina,* but differing from the former by the abdomen consisting apparently of five segments, and from the latter by the eyes of the males being much more approximated than those of the females. As genera of this section may be mentioned CACOSIS *Walk.*, ACROCHÆTA *Wied.*, EUDMETA *Wied.*, ANALCOCERUS *Loew*, SALDUBA *Walk.*, TOXOCERA *Macq.*, HOPLISTES *Macq.*, RAPHIOCERA *Macq.*, BASENTIDEMA *Macq.*, DICRANOPHORA *Macq.*, CHRYSOCHLORA *Macq.*, PTECTICUS *Loew*, MEROSARGUS *Loew*, PEDICELLA *Big.*, CHRYSONOTUS *Loew*, SARGUS *Fabr.*, CLORISOMA *Rond.*, CHRYSOMYIA *Macq.*, and MICROCHRYSA *Loew.* The third section, HERMETINA, is well characterized by the elongated abdomen, the eyes, which are equidistant and very remote in both sexes, and the peculiar structure of the antennæ, the third joint of which is transformed into a ciliated lamel. The genera HERMETIA *Latr.*, THORASENA *Macq.* belong to them. The fourth is formed by the ODONTOMYINA, which are distinguished from the foregoing by their broad body and from the following section by the less convex abdomen and especially by the neuration, the longitudinal veins of the *Odontomyina* being more crowded anteriorly, the discal cell being smaller, hexagonal or pentagonal, never large or subquadrate; moreover, both intercalary veins are usually present, while the posterior one is almost always wanting in the *Pachygastrina.* The following genera may be referred to the *Odontomyina:* CYPHOMYIA *Wied.*, CHORDONOTA *Gerst.*, EUPARYPHUS *Gerst.*, PYCNOMALLA *Gerst.*, ALLIOCERA *Saund.*, STRATIOMYS *Geoff.*, ODONTOMYIA *Meig.*, INERMYIA *Big.*, NEMOTELUS *Geoffr.*, OXYCERA *Meig.*, HETEROXYCERA *Big.*, EPHIPPIUM *Latr.*, CLITELLARIA *Meig.*, CYCLOGASTER *Macq.* (= *Lasiopa* Brull.), ARTEMIDA *Walk.*, AISSA *Walk.*, METABASIS *Walk.*, PROMERANISA *Walk.* The fifth section is that of the *Pachygastrina;* it is distinguished by the longitudinal veins being less crowded towards the costal border, by the magnitude and quadrangular form of the discal cell, the almost general want of the posterior intercalary vein, the short, generally much inflated, abdomen, and its segments soldered together in some genera. The genera belonging here are: PACHYGASTER *Meig.*, LOPHOTELES *Loew*, STERNOBRITHES *Loew*, PLATYNA *Wied.*, BIASTES *Walk.*, PTILOCERA *Wied.*, CHAUNA *Loew*, BLASTOCERA *Gerst.*, SPYRIDOPA *Gerst.*, PANACRIS *Gerst.*, NERUA *Walk.*, CULCUA *Walk.*, EVAZA *Walk.*, ANACANTHELLA *Macq.;* perhaps also PHYLLOPHORA *Macq.*, and ANISOPHYSA *Macq.*

To which section of the *Stratiomyidæ* the genera *Solva*, *Ampsalis*, *Tracana*, *Rosapha*, *Tinda*, *Saruga*, *Gabaza*, *Adraga*, and *Obrapa*, lately formed by Walker, are to be referred, the extreme vagueness of the characters ascribed to them does not allow me to determine.

The N. A. species which are now known to me belong to the following genera: I. *Beridina:* METOPONIA, ACTINA; II. *Sargi-*

na: SARGUS, MICROCHRYSA: III. *Hermetina:* HERMETIA: IV. *Odontomyina:* CYPHOMYIA, EUPARYPHUS, STRATIOMYS, ODONTOMYIA, NEMOTELUS, OXYCERA, CLITELLARIA; V. *Pachygastrina:* PACHYGASTER, CHAUNA.

FAM. XIII. ACANTHOMERIDAE.

Charact.—Basal cells much prolonged; longitudinal veins not crowded together anteriorly; two intercalary veins always present; marginal vein running round the whole border of the wing. Oral parts with four bristles, even in the male. Third joint of the antennæ annulate. Tibiæ without spurs; empodium developed to a pulvillar form.

This small family contains only the two genera ACANTHOMERA *Wied.* and RAPHIORHYNCHUS *Wied.* It differs from the *Stratiomyidæ* by the longitudinal veins not being crowded together anteriorly, by the marginal vein encompassing the whole border of the wing and by the fourth cell of the posterior margin being closed. It differs from the *Tabanidæ* in the form of the oral parts and by the tegulæ being very little developed; as to the oral parts, I have no absolute opinion of my own, but must rely on the communications of others.

No species of this family has been as yet discovered in N. A.

FAM. XIV. TABANIDAE.

Charact.—Three basal cells much prolonged; third longitudinal vein furcate; two intercalary veins always present; marginal vein running round the whole border of the wing; tegulæ rather large. Proboscis of the male with four, of the female with six bristles. Third joint of the antennæ annulate, rarely divided into distinct joints, always without style or bristle; empodium much developed and pulvilliform.

The *Tabanidæ* are easily distinguished from the foregoing families by the structure of the oral parts and by the size of the tegulæ. On account of the presence or absence of spurs at the end of the posterior tibiæ they may be divided into the sections of PANGONINA and TABANINA; the former often, but not always, possess ocelli, whereas, according to the observations hitherto made, they are always wanting in the latter section.

To the *Pangonina* belongs, firstly, the genus PANGONIA *Latr.*

with the genera separated from it and partly connected with each other by passages: *Philoliche* Hffgg., *Dicrania* Macq., *Pelecorhynchus* Macq., *Cadicera* Macq., *Nuceria* Walk., *Melpia* Walk., *Scaptia* Walk., *Tacina* Walk., *Phara* Walk., *Clanis* Walk., *Osca* Walk., *Scione* Walk., *Plinthina* Walk., *Scarphia* Walk., and *Lilæa* Walk.; moreover, the genera: SCEPSIS *Walk.*, SILVIUS *Meig.*, MESOMYIA *Macq.*, TABANOCELLA *Big.*, ECTENOPSIS *Macq.*, RHINOMYZA *Wied.*, ERODIORHYNCHUS *Macq.*, GASTROXIDES *Saund.*, PRONOPES *Loew*, CHRYSOPS *Meig.*, and NEMORIUS *Rond.*

The *Tabanina* comprise the genera: TABANUS *Linn.*, with *Therioplectes* Zell., DICHELACERA *Macq.*, LEPISELAGA *Macq.*, SELASOMA *Macq.*, HADRUS *Pert.*, DIABASIS *Macq.*, ACANTHOCERA *Macq.*, DASYBASIS *Macq.*, HEXATOMA *Meig.*, and HÆMATOPOTA *Meig.*

The N. A. species which we are acquainted with belong to the genera: I. *Pangonina:* 1. PANGONIA *Latr.*, 2. SILVIUS *Meig.*, 3. CHRYSOPS *Meig.* II. *Tabanina:* 4. TABANUS *Linn.*, 5. LEPISELAGA *Macq.*, 6. DIABASIS *Macq.*, 7. HÆMATOPOTA *Meig.*

FAM. XV. LEPTIDAE.

Charact.—Three basal cells much prolonged; third longitudinal vein furcate; two intercalary veins always present; marginal vein running round the whole border of the wing. Third joint of the antennæ simple, with a simple or thickened styliform bristle. Tibiæ with spurs; empodium much developed, pulvilliform.

This family is very easily distinguished from the foregoing families by the simple third joint of its antennæ. A division into sections has not been attempted yet, and would be useless for the small number of genera hitherto known. The genera belonging to this family are as follows: DASYOMMA *Macq.*, CHRYSOPILA *Macq.*, TRIPTOTRICHA *Loew*, LEPTIS *Fabr.*, VERMILEO *Macq.* (= *Psammorycter* Blanch.), ATHERIX *Meig.*, NODUTIS *Meg.* (= *Ibisia* Rond.), and SPANIA *Meig.* (= *Ptiolina* Zett. = *Leptipalpus* Rond.).

The location here of the genus *Syneches* is one of the many errors which we meet with in the writings of Mr. Walker.

I know N. A. species belonging to the genera: 1. CHRYSOPILA *Macq.*, 2. LEPTIS *Fabr.*, 3. TRIPTOTRICHA *Loew*, 4. ATHERIX *Meig.* Mr. Walker has also recorded a species of the genus *Spania* Meig.

FAM. XVI. CYRTIDAE.

Charact.—Thorax and abdomen inflated. Eyes occupying the greatest part of the head. Tegulæ vaulted, exceedingly large. Wings naked, with variable neuration, sometimes very intricate, sometimes very incomplete; the basal cells, when present, are of considerable length. Terminal joint of the antennæ simple. Tibiæ without spurs; empodium much developed, pulvilliform.

This family is divided into the two sections of CYRTINA and ONCODINA. In the former section the veins of the wings are strong and well developed, and the neuration is usually rather complicated. It contains the genera: CYRTUS *Latr.*, PTEROPEXUS *Macq.*, EPICERINA *Macq.*, PANOPS *Lam.* (= *Mesophysa* Macq.), LASIA *Wied.*, EULONCHUS Gerst., PSILODERA *Griff.* (= *Mesocera* Macq.), PTERODONTIA *Griff.*, ASTOMELLA *L. Duf.*, PHYLLIS *Erichs.*, OCNÆA *Erichs.* (= *Eriosoma* Macq. = *Exelasis* Walk.), PIALEA *Erichs.*, OBSEBIUS *Cost.* (= *Pithogaster* Loew), PHYSEGASTER *Macq.*

The section *Oncodina* is distinguished by the anterior veins of the wings alone being completely developed, whereas the posterior ones are not only very incomplete, but also disappear gradually, and frequently are not completely connected. The genera which belong here are: ONCODES *Latr.* (= *Henops* Meig.), TERPHIS *Erichs.* and PHILOPOTA *Wied.*

The N. A. species known to me belong to the genera: I. *Cyrtina:* 1. CYRTUS *Latr.*, 2. OCNÆA *Erichs.*, 3. PTERODONTIA *Griff.*, 4. ACROCERA *Meig.*, 5. a genus hitherto unnamed, and related to *Obsebius*, 6. EULONCHUS *Gerst.*, occurring in California. II. *Oncodina:* 7. ONCODES *Latr.*

FAM. XVII. HIRMONEURIDAE.

Charact.—Three basal cells much prolonged; veins of the wings varying; third longitudinal vein furcate; the two intercalary veins present. Third joint of the antennæ simple; terminal bristle simple or similar to a style, and consisting of several joints. Tibiæ without terminal spurs; empodium pulvilliform, but more frequently minute as well as the pulvilli.

This family, usually called *Nemestrinidæ*, must be divided into the two sections HIRMONEURINA and RHYNCHOCEPHALINA. The first comprises the genera: HIRMONEURA *Meig.*, EXERETONEURA

Macq., COLAX *Wied.*, TRICHOPSIDEA *Westw.*, and SYMMICTUS *Loew*, all of which are characterized by their very short proboscis. To the second belong the genera: FALLENIA *Meig.*, NEMESTRINA *Wied.*, MEGISTORHYNCHUS *Macq.*, TRICHOPHTHALMA *Westw.*, and RHYNCHOCEPHALUS *Fisch.*

We are only acquainted with a single N. A. species belonging to HIRMONEURA *Meig.*

FAM. XVIII. MIDASIDAE.

Charact.—Three basal cells much prolonged; third longitudinal vein furcate; posterior intercalary vein always present, whereas the anterior one is often wanting; veins of the wings varying; wings naked. Antennæ clavate with the third joint consisting of several distinct segments. Under lip fleshy. Empodium very little developed.

To this family belong the genera: MIDAS *Fabr.*, CEPHALOCERA *Latr.*, RHOPALIA *Macq.*, and DOLICHOGASTER *Macq.*—POMACERA *Macq.* may also be placed here till its true place is found.

The N. A. species hitherto known belong only to the genus MIDAS *Fabr.*

FAM. XIX. ASILIDAE.

Charact.—Three basal cells much prolonged. Third longitudinal vein of the wings furcate, the two intercalary veins always present. Third joint of the antennæ simple; under lip forming a horny sheath; empodium similar to a horny bristle.

This family, rich in species of the most varied forms, is divided into three sections. The first of them is that of the DASYPOGONINA, differing from the two others by its second longitudinal vein running into the border of the wing, whereas in the others it unites with the first longitudinal vein before the border of the wing. The considerable number of genera requires a further division into two subordinate groups, the first of which comprises those genera in which the anterior tibiæ end in a hooked spine, whereas the genera of the second portion have no such spine. Consequently the genera belonging to the first group of *Dasypogonina* are as follows: DASYPOGON *Meig.*, SAROPOGON *Loew*, LASTAURUS *Loew*, MORIMNA *Walk.*, CYRTOPHRYS *Loew*, LAPARUS *Loew*, BRACHYRHOPALA *Macq.*, CHEILOPOGON *Rond.*, LAGODIAS *Loew*, and PEGE-

SIMALLUS *Loew*. Those of the second group are: MICROSTYLUM *Macq.*, MEGAPOLLION *Walk.*, XIPHOCERUS *Macq.*, DOLICHODES *Macq.*, DISCOCEPHALA *Macq.*, SENOBASIS *Macq.*, PLESIOMMA *Macq.*, STENOPOGON *Loew*, BATHYPOGON *Loew*, HABROPOGON *Loew*, HOLOPOGON *Loew*, ERIOPOGON *Loew*, HETEROPOGON *Loew*, ISOPOGON *Loew*, OLIGOPOGON *Loew*, STICHOPOGON *Loew*, SAROPOGON *Loew*, DICRANUS *Loew*, TRICLIS *Loew*, EUARMOSTUS *Walk.*, PROLEPSIS *Walk.*, CODULA *Macq.*, CABASA *Walk.*, PHELLUS *Walk.*, PHILAMMOSIUS *Walk.*, GASTRICHELIUS *Rond.*, DACTILISCUS *Rond.*, ELASMOCERA *Rond.*, PHENEUS *Walk.*, CROBILOCERUS *Loew*, PYCNOPOGON *Loew*, ANAROLIUS *Loew*, ACNEPHALUM *Macq.*, SISYRNODYTES *Loew*, RHADINUS *Loew*, CERATURGUS *Wied.*, DIOCTRIA *Meig.*, TERATOPUS *Loew*, DASPLETIS *Loew*, LAPHYCTIS *Loew*, SCYLATICUS *Loew*, HYPENETES *Loew*, SPANURUS *Loew*, RHABDOGASTER *Loew*, DAMALIS *Wied.*, LEPTOGASTER *Meig.* (= *Gonypes* Latr.), EUSCELIDIA *Westw.*, and LASIOCNEMUS *Loew*.

The second section of the *Asilidæ* are the LAPHRINA; it agrees with the third in the second longitudinal vein running into the first, but differs from it in the style of the antennæ either being thick and stout, and generally only rudimentary, or entirely wanting, whereas the antennæ of the third section possess a distinct terminal bristle. The genera of the second section are: LAPHRIA *Meig.*, LAMPRIA *Macq.*, HOPLISTOMERA *Macq.*, MEGAPODA *Macq.*, RHOPALOGASTER *Macq.*, MICHOTAMIA *Macq.*, ATOMOSIA *Macq.*, LAXENECERA *Macq.*, TAPINOCERA *Macq.*, PHONEUS *Macq.*, LAPHYSTIA *Loew*, NUSA *Walk.*, SCANDON *Walk.*, DASYLLIS *Loew*, LAMYRA *Loew*, LAMPROZONA *Loew*, DASYTHRIX *Loew*, THEREUTRIA *Loew*, AMPYX *Walk.*, CORMANSIS *Walk.*, CHŒRADES *Walk.*, ACURANA *Walk.*, PSEUDORUS *Walk.*, POGONOSOMA *Rond.*, and DYSERIS *Loew*.

The third section is that of the ASILINA, which is characterized by its second longitudinal vein running into the first, and by its antennæ having a distinct terminal bristle. The genera belonging to this section are: MALLOPHORA *Macq.*, PROMACHUS *Loew*, ALCIMUS *Loew*, PHILODICUS *Loew*, CRASPEDIA *Macq.* (= *Blepharotes* Westw.), POLYPHONIUS *Loew*, APOCLEA *Macq.*, ERAX *Macq.*, ERISTICUS *Loew*, PROCTACANTHUS *Macq.*, STENOPROSOPIS *Macq.*, SYNOLCUS *Loew*, DYSCLYTUS *Loew*, LOPHONOTUS *Macq.*, TRICHONOTUS *Loew*, DASOPHRYS *Loew*, PROTOPHANES *Loew*, DYSMACHUS *Loew*, EUTOLMUS *Loew*, MACHIMUS *Loew*, MOCHTHERUS *Loew* (= *Helig-*

moneura Big.), STILPNOGASTER *Loew*, EPITRIPTUS *Loew*, ITAMUS *Loew*, TOLMERUS *Loew*, CERDISTUS *Loew*, PROAGONISTES *Loew*, ASILUS *Linn.*, ECCOPTOPUS *Loew*, RHADIURGUS *Loew*, PAMPONERUS *Loew*, ANTIPHRISSON *Loew*, ECHTHISTUS *Loew*, ANTIPALUS *Loew*, PHILODICUS *Loew*, LECANIA *Macq.*, ATRACTIA *Macq.*, and OMMATIUS *Wied.*

Most of the N. A. *Asilidæ*, but by no means all, may be placed in the genera hitherto established. I give, as far as I am able to do so under such circumstances, the following list of genera known to me as occurring on that continent:—

I. *Dasypogonina:* 1. DASYPOGON *Meig.*, with several species which will require the formation of some new genera; 2. MICROSTYLUM *Macq.*, 3. DISCOCEPHALA *Macq.*, 4. PLESIOMMA *Macq.*, 5. STENOPOGON *Loew*, 6. BATHYPOGON *Loew*, 7. LASTAURUS *Loew*, 8. EUARMOSTUS *Walk.*, 9. PHENEUS *Walk.*, 10. STICHOPOGON *Loew*, 11. CERATURGUS *Walk.*, 12. LEPTOGASTER *Meig.* The N. A. species recorded as belonging to DIOCTRIA *Meig.* are no *Dioctriæ* at all; at least DIOCTR. OCTOPUNCTATA *Say* is by no means a true *Dioctria.*

II. *Laphrina:* 13. MEGAPODA *Macq.*, 14. LAPHRIA *Meig.*, 15. ANDRENOSOMA *Rond.*, 16. LAMPRIA *Macq.*, 17. ATOMOSIA *Macq.*, 18. LAPHYSTIA *Loew.*

III. *Asilina:* 19. MALLOPHORA *Macq.*, 20. PROMACHUS *Loew*, 21. ERAX *Macq.*, 22. PROCTACANTHUS *Macq.*, 23. MOCHTHERUS *Loew*, 24. EPITRIPTUS *Loew*, 25. OMMATIUS *Wied.*

FAM. XX. THEREUIDAE.

Charact.—Three basal cells much prolonged; the two intercalary veins present; third longitudinal vein furcate. Antennæ with a terminal style of variable form, sometimes wanting. No empodium. Under lip fleshy.

The principal genera belonging to this family are: XESTOMYZA *Wied.*, BARYPHORA *Loew*, CIONOPHORA *Egg.*, EXAPATA *Macq.*, THEREUA *Latr.*, ECTINORHYNCHUS *Macq.*, ANABARHYNCHUS *Macq.*, TABUDA *Walk.*, CYCLOTELUS *Walk.*, PHYCUS *Walk.*, and DIMASSUS *Walk.*

The N. A. species with which I am acquainted may be conveniently placed under the genus THEREUA *Latr.* In case the genus

Psilocephala Zett., which does not appear to be well founded, should be admitted, some species with naked faces would be located in it.

FAM. XXI. BOMBYLIDAE.

Charact.—Three basal cells much prolonged; anterior intercalary vein present almost without exception, the posterior always wanting; third joint of the antennæ simple; empodium quite rudimentary.

This, again, is a family exceedingly rich in the most varied forms. A distribution into several tribes would therefore be very useful; the two sections hitherto adopted, one of which comprises the genera grouped round the genus *Bombylius*, having a long proboscis, while the second consists of genera more allied to the genus *Anthrax*, having a short proboscis, do not appear sufficient to embrace all the forms which have hitherto been discovered. I am unable to give a better distribution, and I think it will not be possible to do so until the number of sections is increased to at least five or six. The genera of *Bombylidæ* are as follows: BOMBYLIUS *Linn.*, EURYCARENUS *Loew*, TRIPLASIUS *Loew*, SYSTŒCHUS *Loew*, SPARNOPOLIUS *Loew*, DISCHISTUS *Loew* (= *Bombylisoma* Rond.), PARISUS *Walk.*, CHORISTUS *Walk.*, HETEROSTYLUM *Macq.*, LASIOPROSOPA *Macq.*, ADELIDEA *Macq.*, ACREOTRICHUS *Macq.*, APATOMYZA *Wied.*, THLIPSOMYZA *Meig.*, AMICTUS *Wied.*, MEGAPALPUS *Macq.*, PHTHIRIA *Meig.*, CYCLORHYNCHUS *Macq.*, DASYPALPUS *Macq.*, CROCIDIUM *Loew*, GERON *Meig.*, APOLYSIS *Loew*, OLIGODRANES *Loew*, MULIO *Latr.* (= *Glossista* Rond.), CHALCOCHITON *Loew*, CALLOSTOMA *Macq.*, SERICOSOMA *Macq.*, TOXOPHORA *Meig.*, ENICONEURA *Macq.*, LEPIDOPHORA *Macq.*, CORSOMYZA *Wied.*, ECLIMUS *Loew*, SYSTROPUS *Wied.*, DOLICHOMYIA *Wied.*, USIO *Latr.*, PLATYPYGUS *Loew*, CYRTOSIA *Perr.*, PLEAS *Latr.*, CYLLENIA *Latr.*, LAGOCHILUS *Loew*, ANISOTAMIA *Macq.*, LOMATIA *Meig.*, ONCODOCERA *Macq.*, PLESIOCERA *Macq.*, LIGYRA *Newm.*, ANTHRAX *Scop.*, ARGYROMŒBA *Schin.*, NEURIA *Newm.*, COMPTOSIA *Macq.*, LITORHYNCHUS *Macq.*, SPOGOSTYLUM *Macq.*, ENICA *Macq.*, TOMOMYZA *Wied.*, ARGYROSPILA *Rond.*, EXOPROSOPA *Macq.*, AUTONIA *Loew*.

The N. A. *Bombylidæ* which I have seen may be distributed amongst the following genera: 1. BOMBYLIUS *Linn.*, 2. SYSTŒCHUS *Loew*, 3. SPARNOPOLIUS *Loew*, 4. LEPIDOPHORA *Westw.*, 5. TOXOPHORA *Meig.*, 6. GERON *Meig.*, 7. SYSTROPUS *Wied.*, 8. PLOAS

Latr., 9. ANTHRAX *Scop.*, 10. ARGYROMŒBA *Schin.*, 11. EXOPROSOPA *Macq.*

Moreover, Macquart has founded his genus *Oncodocera* on a N. A. species, and described a N. A. species among his *Anisotamiæ*, though it seems to be an alien there. Mr. Walker described some N. A. species, which he placed under the genera *Apatomyza* Wied. and *Phthiria* Meig.

FAM. XXII. SYRPHIDAE.

Charact.—Three basal cells much prolonged; third longitudinal vein simple; a spurious longitudinal vein (*vena spuria*) between the third and fourth longitudinal veins; fourth longitudinal vein united at its end with the third; no intercalary veins. Hypopygium unsymmetrical; no empodium.

This is one of the most extensive families and includes about eighty genera, the enumeration of which seems to be superfluous here. A distribution into sections, however desirable, proves exceedingly difficult. To divide the family into genera with an antennal bristle and genera with a terminal style would be no great gain, since the number of the latter is very small.

I know the following genera to occur in N. A.: VOLUCELLA *Geoffr.*, TEMNOCERA *St. Farg.*, MICRODON *Meig.* (= *Aphritis* Latr.), CERIA *Fabr.*, SERICOMYIA *Meig.*, TROPIDIA *Meig.*, SYRITTA *St. Farg.*, XYLOTA *Meig.*, MALLOTA *Meig.*, BRACHIPALPUS *Macq.*, MILESIA *Latr.*, SPHECOMYIA *Latr.*, SOMULA *Macq.*, CHRYSOTOXUM *Meig.*, MIXTEMYIA *Macq.*, MALLOTA *Meig.*, HELOPHILUS *Meig.*, ERISTALIS *Latr.*, PLAGIOCERA *Macq.*, OCYPTAMUS *Macq.*, BACCHA *Fabr.*, SPHEGINA *Meig.*, RHINGIA *Fabr.*, ORTHONEURA *Macq.* (= *Cryptineura* Big.), PARAGUS *Latr.*, CHEILOSIA *Meig.*, CHRYSOCHLAMYS *Rond.*, DOROS *Meig.*, DIDEA *Macq.* (= *Enica* Meig.), MELITHREPTUS *Loew* (= *Sphærophoria* Macq.), MESOGRAMMA *Loew*, SYRPHUS *Fabr.*, SCÆVA *Fabr.*, PLATYCHEIRUS *St. Farg.*

It results from the remarks of some authors that species of the genera: *Pipiza* Fall., *Chrysogaster* Meig., *Epistrophe* Walk., *Polydonta* Macq., and *Merodon* Latr. occur with certainty in N. A.

The genus *Chymophila* Macq. founded on a N. A. species must be entirely blotted out from the list of genera. For it is evident that Bigot is right in stating that the specimen on which it was founded was a composition of a body of a *Microdon* with the head of a *Conops*. The genus *Toxomerus* Macq. has not been mentioned in the above list, it being quite untenable. I judge *Dimeraspis* Newm. to be identical with *Microdon*. *Psarus* has been omitted, because the species described under this name must be placed in other genera. The statement of *Eumerus* Meig. occurring in N. A. is founded merely on an observation of Walker, and therefore requires further confirmation. Macquart records a N. A. species of the genus *Psilota* Meig., but this genus having been misunderstood by most authors, I do not venture now to mention it among those truly represented in N. A.

FAM. XXIII. MYOPIDAE.

Charact.—Three basal cells large, the third closed, more or less remote from the posterior border; all longitudinal veins simple; no intercalary vein. Eyes in both sexes broadly separated; proboscis, with few exceptions, much prolonged; maxillæ small; the third joint of the antennæ with an apical style or a thick dorsal bristle. Hypopygium symmetrical, turned under the abdomen. Empodium wanting.

Omitting the untenable genera into which the genus *Conops* has been subdivided by Rondani and the genus *Myopa* by Perris, we mention here the genera: CONOPS *Linn.*, PLEUROCERINA *Macq.*, ZODION *Latr.*, MYOPA *Latr.* and STACHINIA *Macq.*

This family has been divided by some authors into two families: *Conopidæ* and *Myopidæ*, the former containing those genera which have an apical style on the antennæ, the latter being characterized by a dorsal bristle of the antennæ. I cannot approve of this division at all, since the difference between a style and a bristle, and the difference of an apical and a dorsal position, according to all experience, only furnishes characters of very inferior value for the systematic arrangement, as we see in the families *Stratiomydæ*, *Bombylidæ*, *Syrphidæ*, *Hybotidæ*, *Dolichopidæ*, etc., where this organ is sometimes apical, sometimes dorsal. We might as well form two families on account of the proboscis being either straight or geniculated. But the conspicuity of the difference in the structure of the antennæ may serve to form two sections in the family, CONOPINA and MYOPINA, the former of which would contain the genera *Conops* and *Pleurocerina*, the latter the genera *Zodion*, *Myopa*, and *Stachynia*.

The N. A. species which I know belong to the genera: 1. Conops *Linn.*, 2. Zodion *Latr.*, 3. Myopa *Latr.*, 4. Stachynia *Macq.*

Fam. XXIV. PIPUNCULIDAE.

Charact.—Three basal cells much prolonged, the hindmost closed near the border of the wing; third longitudinal vein simple, the fourth sometimes almost entirely wanting, sometimes furcate when perfect; no intercalary vein. Head almost entirely occupied by the eyes, front and face exceedingly narrow; antennæ with a basal bristle. Hypopygium unsymmetrical. Tibiæ without spurs; empodium wanting.

This family only comprises the three genera: Neurophocerus *Zett.*, Pipunculus *Latr.* and Chalarus *Walk.*

The N. A. species known to me belong all to the genus Pipunculus *Latr.*

Fam. XXV. SCENOPINIDAE.

Charact.—Three basal cells very large; the third closed rather far from the border of the wing; third longitudinal vein furcate; no intercalary vein; third joint of the antennæ without style or bristle. No empodium.

This family possesses so many peculiarities that it is very difficult to find a fit place for it among the other families, though it exhibits much affinity with some of them. I would especially point out the *Bombylidæ* as deserving a closer comparison in order to investigate their true relationship. At present it seems best to follow those authors who have considered the genus Scenopinus as the type of a separate family.

Some species of Scenopinus occur in N. A.

Fam. XXVI. PLATYPEZIDAE.

Charact.—Three basal cells rather large, the hindmost always ending acutely, at more or less distance from the border of the wing; third longitudinal vein simple; no intercalary vein. Antennæ with an apical bristle. Hypopygium symmetrically turned under the abdomen. Middle tibiæ with spurs; empodium wanting.

The genera which belong to this family are: Platypeza *Meig.*, Callomyia *Meig.*, Opetia *Meig.*, and Platycnema *Zett.*

I know only one species of **Platycnema**, one species of **Callomyia**, and two species of **Platypeza** occurring in N. A.

Fam. XXVII. LONCHOPTERIDAE.

Charact.—Three basal cells of moderate size, of nearly equal length; fourth longitudinal vein furcate and united with the fifth near the base. Antennæ with an apical bristle. Empodium wanting.

This family is also founded on a single genus which cannot be placed in any other family. Though in **Lonchoptera** the basal cells are by no means large, yet their structure and the great development of the sixth longitudinal vein seems to prove that this family should be reunited with one of those already mentioned. However, by the form of its neuration and its anal parts it differs so widely from them, that it is very difficult to state in what their affinity consists. Mr. Walker has lately added the genus **Cadrema** to the family of *Lonchopteridæ.*

Lonchoptera is found in N. A.

Fam. XXVIII. HYBOTIDAE.

Charact.—Three basal cells complete, rather large, the third only a little shorter than the second; posterior transverse vein of the base generally running perpendicularly or at a somewhat acute angle into the sixth longitudinal vein, and thus not being parallel to the posterior border of the wing; third longitudinal vein frequently furcate; anterior intercalary vein often wanting, posterior never present. First joint of the antennæ not much shortened, the third more frequently with a bristle than with a style, the bristle sometimes dorsal instead of being apical. Empodium membranaceous and linear.

The three families: *Hybotidæ, Empidæ* and *Tachydromidæ* run into each other so insensibly, that it is very difficult to indicate sharp limits between them. If we select this or that character as being of greater importance, we shall always obtain a different result as to these limits. I maintain the family *Hybotidæ* only with the view of falling in with the usual arrangement, since I am fully satisfied that there is no sharp limit to be drawn between it and that of the *Empidæ.* For neither the more convex thorax, nor the horizontal direction of the proboscis, nor the form and position of the palpi, nor the simplicity or furcation of the third longitudinal vein, nor the presence or absence of the anterior intercalary vein are characters, on which—whether we use them singly or in any combination—we can found a satisfactory or sharp definition of both families. The resemblance of some *Hybotidæ* with some *Bombylidæ* cannot be denied, but their place will never be doubtful if we consider, that in the *Bombylidæ* the third basal cell is open or only closed near the border of the wing, while in all *Hybotidæ* it always remains remote from that border. To the family *Hybotidæ* may be referred: BRACHYSTOMA *Meig.*, HYBOS *Fabr.*, SYNECHES *Hal.* (= *Pterospilus* Rond. = *Harpamerus* Big.), SYNDYAS *Loew*, STENOPROCTUS *Loew*, ACARTERUS *Loew*, MEGHYPERUS *Loew*, OEDALEA *Meig.*, EUTHYNEURA *Macq.* (= *Anthalia* Zett.), OCYDROMIA *Meig.*, TRICHOPEZA *Rond.* on account of of its near relation with *Brachystoma* and LEPTOPEZA *Macq.* on account of its resemblance with *Ocydromia.* The two last genera might as well be placed among the *Empidæ*, since they agree with them in having the posterior basal transverse vein parallel to the border of the wing.

The N. A. species which I possess belong to the following genera: BRACHYSTOMA *Meig.*, HYBOS *Fabr.*, SYNECHES *Walk.*, SYNDYAS *Loew*, and LEPTOPEZA *Macq.* Mr. Walker also describes a species which he believes to belong to the genus OCYDROMIA *Meig.*

FAM. XXIX. EMPIDAE.

Charact.—Three basal cells complete, rather large, the third shorter than the second; posterior basal transverse vein parallel to the border of the wing; third longitudinal vein frequently furcate; anterior intercalary vein present, the posterior wanting. First joint of the antennæ not much shortened, third joint with an apical bristle sometimes resembling a style. Empodium membranaceous and of a linear form.

The genera belonging to this family are: EMPIS *Meig.*, PACHYMERIA *Macq.*, ERIOGASTER *Macq.*, APLOMERA *Macq.*, RHAMPHOMYIA *Meig.*, HILARA *Meig.*, RAGAS *Walk.*, GLOMA *Meig.*, MICROPHORUS *Macq.*, HORMOPEZA *Zett.*, ITEAPHILA *Zett.*, MICROSANIA *Zett.*, and CYRTOMA *Meig.*

The N. A. species known to me belong to the genera: EMPIS *Meig.*, PACHYMERIA *Macq.*, RHAMPHOMYIA *Meig.*, HILARA *Meig.*, and Cyrtoma *Meig.* Mr. Walker records a N. A. species belonging to the genus Gloma *Meig.*

Fam. XXX. TACHYDROMIDAE.

Charact.—The hindmost basal cell not always present, the second basal cell sometimes coalescent with the discal cell; when present they are of a tolerable size, but the hindmost is always remote from the border of the wing; third longitudinal vein sometimes furcate; anterior intercalary vein sometimes present, the posterior never. First joint of the antennæ very much shortened so that the antennæ may easily be taken for biarticulate. Empodium membranaceous and of a linear form.

To this family belong the genera: Hemerodromia *Meig.* with Chyromantis *Rond.* and Mantipeza *Rond.*, Phyllodromia *Zett.*, Tachydromia *Fabr.*, Dryodromia *Rond.*, Elaphropeza *Macq.*, Platypalpus *Macq.*, Phoroxypha *Rond.*, Sciodromia *Hal.* (= *Microcera* Zett.), Ardoptera *Macq.* (= *Leptosceles* Hal.), Clinocera *Meig.*, with which Heleodromia *Hal.* (= *Paramesia* Macq.,) and Wiedemannia *Zett.* may be properly reunited.

As genera occurring in N. A. I enumerate: Hemerodromia *Meig.*, Tachydromia *Fabr.*, Platypalpus *Macq.*, Ardoptera *Macq.*, and Clinocera *Meig.* If we may trust Mr. Walker's statement, the genus Drapetis *Meig.* also occurs in N. A.

Observation.—With the *Tachydromidæ* ends the series of those families of *Brachycera* which in the greater development of their basal cells differ from the following, and, with the exception of the *Lonchopteridæ*, form a rather natural series, if a linear arrangement may be spoken of as a natural one. The peculiarities, which also characterize this series of families, and any of which, combined with that just mentioned, suffice to place a family under this head, are the following: 1. the third joint of the antennæ is composed of a number of joints more or less soldered together; 2. the third longitudinal vein is furcate; 3. one intercalary vein or both are present; 4. the empodium is considerably developed. These peculiarities characterizing the whole series of families hitherto spoken of are much lessened in the *Hybotidæ* and *Empidæ*, and still more so in the *Tachydromidæ*. *Tæniaptera*, *Dacus* and other genera with the third basal cell more developed, are placed by most of the authors lower down in the series of families which follow. In order to retain the accustomed arrangement as much as possible, I shall leave them in their usual places, though it would seem, that a more natural arrangement might be obtained, were they added to the above families which have the basal cells prolonged.

FAM. XXXI. DOLICHOPODIDAE.

Charact.—First basal cell rather short, the second united with the discal cell, the third small; auxiliary vein running in the first longitudinal vein; third longitudinal vein simple, the fourth sometimes furcate; no intercalary vein. Hypopygium symmetrical, bent under the abdomen. Empodium small, membranaceous, of a linear form.

The principal genera are: PSILOPUS *Meig.*, SYBISTROMA *Meig.*, HYPOPHYLLUS *Hal.*, HERCOSTOMUS *Loew*, HYGROCELEUTHUS *Loew*, DOLICHOPUS *Meig.*, TACHYTRECHUS *Stann.*, ORTHOCHILE *Latr.*, GYMNOPTERNUS *Loew*, LYRONEURUS *Loew*, PLAGIONEURUS *Loew*, LIANCALUS *Hal.*, SCELLUS *Loew*, HYDROPHORUS *Fall.*, CAMPSICNEMUS *Hal.*, THINOPHILUS *Wahlb.*, PEODES *Loew*, ACHALCUS *Hal.*, SYSTENUS *Loew*, SYNTORMON *Loew*, SYNARTHRUS *Loew*, PORPHYROPS *Meig.*, RHAPHIUM *Meig.*, XIPHANDRIUM *Hal.*, HALTERICERUS *Rond.*, SMILIOTUS *Loew* (= *Machærium* Hal.), ARGYRA *Macq.*, LEUCOSTOLA *Hal.*, NEMATOPROCTUS *Loew*, SAUCROPUS *Loew*, XANTHOCHLORUS *Loew*, SYMPYCNUS *Loew*, TEUCHOPHORUS *Loew*, ANEPSIUS *Loew*, EUTARSUS *Hal.*, DIAPHORUS *Meig.*, CHRYSOTUS *Meig.*, CHRYSOTIMUS *Hal.*, MEDETERUS *Fisch.*, APHROSYLUS *Hal.*

The N. A. genera which I am acquainted with are: PSILOPUS *Meig.*, HYGROCELEUTHUS *Loew*, DOLICHOPUS *Meig.*, TACHYTRECHUS *Stann.*, GYMNOPTERNUS *Loew*, PLAGIONEURUS *Loew*, LIANCALUS *Hal.*, SCELLUS *Loew*, CAMPSICNEMUS *Hal.*, SYNARTHRUS *Loew*, PORPHYROPS *Meig.*, ARGYRA *Macq.*, LEUCOSTOLA *Hal.*, SAUCROPUS *Loew*, XANTHOCHLORUS *Loew*, DIAPHORUS *Meig.*, LYRONEURUS *Loew*, CHRYSOTUS *Meig.*, and MEDETERUS *Fisch.*

FAM. XXXII. OESTRIDAE.

Charact.—Antennæ inserted in rounded pits; the middle part of the face exceedingly narrow; the opening of the mouth very small; the oral organs rudimentary. Tegulæ large.

This family has often been considered as very distant from the following, but the late discoveries have brought to light forms which are more nearly related to them. The following genera may be taken for those which constitute the family: Trypoderma *Wied.* (= *Cuterebra* Clark), Cephalomyia *Latr.*, Cephenemyia *Latr.*, Hypoderma *Clark*, Gastrus *Meig.*, Aulacephala *Macq.* and Ctenostylum *Macq.* A thorough limitation of these genera is still wanted, and the name of *Oestrus*, instead of being dropped, as we see it done by some authors, may perhaps be again restored to its former rank.

I have seen N. A. species of the genus Trypoderma, and others of the genera Cephalomyia and Gastrus, introduced in America from Europe. There is no doubt that species of Hypoderma occur there also.

Fam. XXXIII. DEXIDAE.

Charact.—Bristle of the antennæ hairy or pectinated. Thorax short. First posterior cell of the wing slightly opened, sometimes closed. Tegulæ large. Legs long.

The family *Dexidæ* agrees with the *Tachinidæ*, *Sarcophagidæ*, *Muscidæ*, and *Anthomyidæ*, in having the tegulæ larger than any of the following families of the *Brachycera*. These five families have been therefore united under the name of *Muscariæ calyptratæ*, and contrasted with the following, called *Muscariæ acalyptratæ*. There is no possibility, it seems, to discover any other constant character; that which appears the most serviceable was pointed out to me by Mr. Haliday; it is the transverse suture of the thorax being usually of the same depth on its whole extent in the *Muscariæ calyptratæ*, whereas in the *Muscariæ acalyptratæ* it is generally distinct at each side and imperceptible on the middle of the thorax. But as some families among the so-called *Muscariæ acalyptratæ* have the tegulæ so well developed as to resemble those of many *Anthomyidæ*, a high importance cannot be attached to that subdivision. Should it be maintained, the *Oestridæ* ought to be placed among the *Muscariæ calyptratæ*.

The four families: *Dexidæ*, *Tachinidæ*, *Sarcophagidæ*, and *Muscidæ*, agree in the first posterior cell being very much narrowed or closed at the end, and differ in this from the family *Anthomyidæ*. The former have, for this reason, been comprised under the common name of *Creophilæ*, in opposition to the latter, which received the name of *Anthophilæ*. The differences in the organization of the *Muscariæ calyptratæ* are much smaller than those of any two families among the first series of *Diptera brachycera*, which ends with the *Tachydromidæ*, with the sole exception of the group formed by the *Hybotidæ*, *Empidæ*, and *Tachydromidæ*, in which a similar relationship exists. Consequently the families in question here owe their existence much more to the immense number of species and genera than to a real necessity, based on differences of structural characters. Hence it is much more difficult to define their limits, and one must already be well acquainted with a great number of forms, in order to attempt to point out with certainty the right place for new ones. In the limitation of these families I have made use of what has been said about them in Walker's British Diptera; for however insufficient I may find it, I know of nothing better to be put in its place.

In the family of *Dexidæ* a number of genera have been already formed; as they still require considerable sifting and a much sharper limitation than they have at present, it seems useless to enumerate them here.

The N. A. *Dexidæ* known to me cannot all be placed in the genera hitherto erected. The species about whose position there is no doubt belong to the genera: PROSENA *St. Farg.*, MICROPHTHALMA *Macq.*, DINERA *Rob. Desv.*, and ESTHERIA *Rob. Desv.* There is also no doubt about TRICHODURA *Macq.* and MEGAPROSOPUS *Macq.* occurring in N. A.

FAM. XXXIV. TACHINIDAE.

Charact.—Bristle of the antennæ bare or with a very short pubescence. Thorax short. First posterior cell closed or only slightly opened. Legs short.

The immense extent of this family renders the formation of sections indispensable. It is best divided into four sections, which might perhaps be raised into families. The two first of them are the *Tachinina* and *Ocypterina*, both of which differ from the two last by their abdomen being beset with long bristles. All TACHININA have an oval abdomen, or when it is nearly cylindrical, its first segment is much shortened. The abdomen of the OCYPTERINA is always of a slender cylindrical form, and its first segment elongated.

The third section, the GYMNOSOMINA, has a broad front and a vaulted abdomen. The fourth is that of the PHASINA, having a very narrow front and a flat abdomen.

My knowledge of the N. A. *Tachinidæ* is a very incomplete one. I know, however, the following genera: I. *Tachinina:* 1. DEJEANIA *Rob. Desv.*, 2. ECHINOMYIA *Meig.*, 3. JURINEA *Rob. Desv.*, 4. HYSTRICIA *Macq.*, 5. MICROPALPUS *Macq.*, 6. GONIA *Meig.*, 7. NEMORÆA *Rob. Desv.*, 8. BLEPHARIPEZA *Macq.*, 9. BELVOISIA *Rob. Desv.*, 10. TACHINA *Meig.*, 11. CHRYSOSOMA *Macq.*, 12. METOPIA *Meig.*, 13. MILTOGRAMMA *Meig.*, 14. ILLIGERA *Rob. Desv.*, 15. MASICERA *Macq.* II. *Ocypterina:* 16. OCYPTERA *Latr.* III. *Gymnosomina:* 17. GYMNOSOMA *Fall.* IV. *Phasina:* 18. PHASIA *Latr.* 19. HYALOMYIA *Macq.*, 20. TRICHOPODA *Latr.*

FAM. XXXV. SARCOPHAGIDAE.

Charact.—Bristle of the antennæ plumose or hairy, with the apex bare. First posterior cell only slightly opened or else closed. Tegulæ large. Legs stout.

All the N. A. species I have seen belong to the genera: SARCOPHAGA *Meig.*, PHRYSSOPODA *Rob. Desv.*, and CYNOMYIA *Meig.*

FAM. XXXVI. MUSCIDAE.

Charact.—Bristle of the antennæ entirely plumose or pectinated. Body never slender; thorax short. First posterior cell only slightly opened or else closed at the border of the wing. Tegulæ large. Legs stout.

This family contains two sections: the MUSCINA with plumose antennæ, and the STOMOXYNA with pectinated antennæ.

The N. A. species which I have examined belong to the genera: MUSCA *Linn.*, POLLENIA *Rob. Desv.*, CYRTONEURA *Macq.*, PYRELLIA *Rob. Desv.*, LUCILIA *Rob. Desv.*, CALLIPHORA *Macq.*, and STOMOXYS *Geoffr.* The number of species which N. A. has in common with Europe is exceedingly striking in this particular family.

FAM. XXXVII. ANTHOMYIDAE.

Charact.—Thorax with a complete transverse suture. Fourth longitudinal vein straight or nearly so, hence first posterior cell fully open. Tegulæ rather well developed, though in many cases of no large size.

The riches of the N. A. Fauna in this family have been very little explored. I know species of the following genera only: ANTHOMYIA *Meig.*, HOMALOMYIA *Bouch.*, HYLEMYIA *Macq.*, ARICIA *Rob. Desv.*, LISPE *Latr.*, and CŒNOSIA *Meig.* The notices of Mr. Walker about the occurrence of some species of *Eriphia* and of one *Dialyta* appear to me very uncertain.

FAM. XXXVIII. CORDYLURIDAE.

Charact.—Neuration of the wings complete; both posterior basal cells of considerable size; auxiliary vein well separated from the first longitudinal vein; first longitudinal vein bare. Whole lateral border of the front bristly; anterior border of the mouth with strong, usually numerous vibrissæ. Tibiæ with spurs.

With the *Cordyluridæ* we begin that division of *Diptera* which is called *acalyptratæ*, and the systematical arrangement of which is still and will be an unsolved problem, till their structure has been much more thoroughly studied than has been hitherto the case. In the present state of our knowledge their subdivision into a greater number of families seems to be the most advisable course to pursue.

As for their exterior, the *Cordyluridæ* mostly approach to the *Anthomyidæ*, and namely to the species of the genus *Coenosia*, but the smaller size of their tegulæ and the less incomplete development of the transverse suture on their thorax serve to distinguish them. On the other side they are closely allied to the *Helomyzidæ*, in which, however, the front bears bristles on its upper half only, the two posterior basal cells are smaller, and the costa of the wings is always bristly.

N. A. possesses species of CORDYLURA, some of them very interesting, and a number of SCATOPHAGÆ among which several coincide with European species.

FAM. XXXIX. HELOMYZIDAE.

Charact.—Neuration of the wings complete; costa bristly; first longitudinal vein not abbreviated, but bare; the auxiliary vein is often rather approximated to it. Front bristly on its upper half only; a stout bristle at each side of the anterior border of the mouth. All the tibiæ with spurs and outwards before their tips with a more or less developed erect bristle.

The close relation of the *Helomyzidæ* to the *Cordyluridæ* induces me to assign them a place here, although the consideration of the smaller size of their two posterior basal cells would remove them to a more distant place, in the neighborhood of the *Geomyzidæ* and *Heteroneuridæ.* In fact both families are related to the *Helomyzidæ;* but they differ from them by their having the first longitudinal vein abbreviated and the auxiliary vein lying close by it, and besides the *Heteroneuridæ* have the peculiarity of the costa of the wings being without bristles.

The known N. A. species belong to the genera HELOMYZA and SCHŒNOMYZA. Some of them are likewise identical with European species.

FAM. XL. SCIOMYZIDAE.

Charact.—Neuration of the wings complete; two posterior basal cells of rather considerable size; auxiliary vein well separated from the first longitudinal vein. On the lateral border of the front before the vertical bristles there are two bristles, one behind the other; face proportionately long without distinct furrows for the antennæ; border of the mouth sharp, without vibrissæ. Middle tibiæ with a greater number of bristles at the tip; all the tibiæ on the outside before the tip with a small upright bristle.

I know N. A. species that belong to the genera SEPEDON, TETANOCERA, and SCIOMYZA. Some of them are most nearly related to European species, others seem altogether identical with them. If we place, and we may well justify our doing so, the genus DRYOMYZA among the *Sciomyzidæ,* it must also be named as a genus represented in N. A.; one of the two species of this genus occurring there does not seem to differ from the European *Dryomyza anilis* Fall. The genus ACTORA *Meig.*, which agrees with the *Sciomyzidæ* in many characters, may be referred to them without any great difficulty; but on account of its deviation in the structure of the face, the character of the family would have then to be slightly altered. Mr. Walker has described a N. A. species which he contends to belong to ACTORA.

FAM. XLI. PSILIDAE.

Charact.—Body elongated, with short hairs and almost without bristles. Neuration of the wings complete; the auxiliary vein lies close by the first longitudinal vein, but diverges from it at its end and runs towards the border of the wing; by a transverse fold most characteristic in this family running from the tip of the auxiliary vein as far as the base of the third posterior cell, the outward end of the auxiliary vein is obliterated; the posterior basal cells are very large. Front with only a few bristles in the neighborhood of the crown; face receding; opening of the mouth small and with no bristles at its border. Only the middle tibiæ have spurs, and all the tibiæ are without erect bristle on the outside.

This family is represented in N. A. by the genera LOXOCERA, PSILA, and CHYLIZA. The N. A. species, which induced Mr. Walker to form a new genus *Prochyliza*, placed by him close by *Chyliza*, belongs to some other family.

FAM. XLII. MICROPEZIDAE.

Charact.—Body slender, elongated, with very short hairs and very scarce bristles. Legs proportionately short; only the middle tibiæ have spurs, these being generally very small and weak; no small erect bristle on the exterior side of the tibiæ. Neuration of the wings complete; first longitudinal vein bare; the auxiliary vein is very close by it and diverges from it towards its end only; the two posterior basal cells are very large. Front with some bristles in the neighborhood of the crown only; bordering of the mouth without vibrissæ. Last segment of the abdomen of the female prolonged into a blunt, cylindrical tube.

The family *Micropezidæ* comprises genera which differ among each other, both in the form of the head and the structure of the antennæ and oral parts. The head is sometimes rounded, sometimes more elongated; the bristle of the antennæ is generally dorsal, but in some genera apical; the clypeus sometimes very much developed, sometimes only rudimentary; the palpi sometimes large, sometimes small, but never rudimentary. The clypeus being very much developed and the proboscis very much thickened in the genus *Tæniaptera* Macq., this family approaches so much to the *Ortalidæ*, that the bareness of the first longitudinal vein, the difference in the structure of the female ovipositor, and the corresponding difference in the structure of the male appendages, must be considered as the chief characters, which distinguish it from them. The *Sepsidæ*, too, are rather nearly related to the *Micropezidæ*, but are distinguished from them not only by the structure of the female ovipositor, but also by their palpi being always rudimentary.

The N. A. species I know of are: one true CALOBATA, numerous TÆNIAPTERÆ, and two MICROPEZÆ. Whether the N. A. species which Mr. R. Desvoidy refers to the genus NERIUS, really belong to it, appears to me most doubtful, as they seem to be *Tæniapteræ* all together. The genus LISSA *Meig.* occurring likewise in N. A., in most characters agrees with the *Micropezidæ*, and may provisionally be placed among them, till a more convenient place in the system will be pointed out for it. The genus EUMETOPIA erected by Mr. Macquart on a N. A. species, is also related to the latter, and may likewise obtain here a provisional place. Both these genera differ from the great bulk of the *Micropezidæ* by having the legs less slender, the tarsi less abbreviated, and the last segment of the abdomen not prolonged so as to form a cylindrical tube.

FAM. XLIII. ORTALIDAE.

Charact.—Neuration of the wings complete; auxiliary vein separated from the first longitudinal vein and running to the border of the wing in the usual way, under an acute angle and remaining perfectly distinct in its whole length; third longitudinal vein generally with coarse hairs; two posterior basal cells large, and the outward one frequently prolonged in an acute angle. Front with bristles on the upper part only; no vibrissæ at the border of the mouth; clypeus commonly very much developed, and proboscis often very much thickened. Middle tibiæ alone with spurs; no tibiæ with an erect bristle on the exterior side before the tip. Ovipositor of the female rather flattened and horny, consisting of three elongated segments, forming three drawers like those of a telescope, and ending in a simple point.

The family of *Ortalidæ* is exceedingly rich in variously shaped organizations, which caused a considerable increase of genera in it. Unfortunately most of them are founded on characters so variable that they are of very little use, and it seems best to retain the old ample genera. We feel the more compelled to do so, as many species existing in N. A. cannot be referred to any of the modern genera.

The whole of the *Ortalidæ* may conveniently be divided into two sections: the first, which may be named TETANOPINA, has the front more prominent, the face receding, the opening of the mouth rather small, the clypeus less developed, and the proboscis less thick; in the second, the ORTALINA, the front is not prominent, the clypeus very much developed, the opening of the mouth much wider, and the proboscis much thicker.

The N. A. Fauna possesses in PYRGOTA a genus of the first section, particularly striking, and even somewhat deviating. Among the other N. A. *Ortalidæ* known to me there is only one species belonging to CEPHALIA, whereas all the rest belong to the genus ORTALIS, if we take it, as Meigen did, in a wider sense, and are distributed especially among the genera *Ceroxys*, *Ortalis*, *Rivellia* and *Delphinia*, of modern authors.

FAM. XLIV. TRYPETIDAE.

Charact.—Neuration complete; the end of the auxiliary vein runs steeply to the border of the wing and becomes obsolete; first longitudinal vein always with bristles, the third frequently, the fifth sometimes; two posterior basal cells rather large, the hindmost is often prolonged to a point. Front on each side with two rows of bristles, one of which is more above and interiorly, the other below and exteriorly. Border of the mouth with no vibrissæ. Clypeus none or rudimentary. Proboscis never incrassated. Only the middle tibiæ with spurs; all tibiæ without erect bristle on the outer side before the tip. Ovipositor horny, consisting of three elongated retractile segments like the drawers of a telescope, the last of which ends in a simple point.

They are divided into two sections, DACINA and TRYPETINA. In the former the female abdomen, before the ovipositor, has apparently only four segments, the fifth segment being diminutive and entirely concealed under the fifth; in the *Trypetina* the five segments are all equally developed.

As the *Dacina*, represented in Europe only by *Dacus Oleæ*, which lives on the olive-tree, and *Petalophora capitata*, exclusively dependent on the lemon-tree, are in all respects strangers in the European Fauna, so they appear to be no natives of N. A.; no species of this division has hitherto been noticed there. The *Trypetina*, on the contrary, are represented there by numerous, partly very handsome species, all belonging to the genus TRYPETA in Meigen's and Wiedemann's sense.

FAM. XLV. LONCHAEIDAE.

Charact.—Neuration complete; the auxiliary vein runs to the border of the wing in the usual way, under an acute angle and without becoming obsolete, and is very near to the first longitudinal vein; this vein is bare; the two posterior basal cells are small. Front at each side with a single row of bristles; border of the mouth without vibrissæ; clypeus rudimentary. Middle tibiæ with spurs; all tibiæ without erect bristle on the exterior side before the tip. The ovipositor of the female consists of three joints and is rather horny, quite flattened, and ends in a simple point.

They are divided into the PALLOPTERINA having more slender legs and a broader front, and the LONCHÆINA with stouter legs and a more narrow front.

There is only one species in N. A., that I know of, belonging to the genus PALLOPTERA: of the second division I have several species of LONCHÆA, a part of which seem to be identical with European species.

FAM. XLVI. SAPROMYZIDAE.

Charact.—Neuration complete; auxiliary vein of the usual structure, frequently very much approximated to the first longitudinal vein; costa of the wings without bristles or marginal spine; longitudinal veins without peculiar hairs; posterior basal cells small. Front with a single row of bristles on each side; no vibrissæ on the border of the mouth; clypeus rather rudimentary. Only the middle tibiæ have terminal spurs; all tibiæ with a small erect bristle on the exterior side before the end. Ovipositor of the female not horny.

N. A. has numerous species of the genera SAPROMYZA and LAUXANIA, and a few species belonging to PACHYCERINA *Macq.*, a genus detached from *Lauxania*.

FAM. XLVII. PHYCODROMIDAE.

Charact.—Thorax, scutellum and abdomen flat; pleuræ excised above the coxæ. Front bristly; border of the mouth hairy, with no distinct vibrissæ. Legs stout, tibiæ with spurs and each with an erect hair or small bristle on the outside before the tip; the first joint of the posterior tarsi not abbreviated; last joint of all tarsi enlarged, with stout claws and long pulvilli. Neuration of the wings complete; auxiliary vein distinct in its whole length; costa without bristles; basal cells not small.

A certain resemblance with the *Borboridæ* can by no means be overlooked; however, the *Phycodromidæ* are readily distinguished by the completeness of the auxiliary vein, the absence of the vibrissæ so remarkable in those, by the first joint of the posterior tarsi not being abbreviated, and by the increased size of the last joint of all tarsi. They appear to have more true relation to the *Helomyzidæ*, but from these too they are sufficiently distinguished by the costa of the wings having no bristles and the border of the mouth having close hairs, but no real vibrissæ.

Of this family I have seen only one CŒLOPA captured in N. A. It was remarkable by the exceedingly strong spines of its legs.

FAM. XLVIII. HETERONEURIDAE.

Charact.—Neuration of the wings complete, but the first longitudinal vein rather short, and the auxiliary vein very much approximated to it; costa without bristles; basal cells small. Front with long bristles; border of the mouth with a vibrissa at each side; clypeus not developed; palpi broad and proportionately large. Legs, and especially the tarsi, slender; middle and posterior tarsi with spurs; all the tibiæ without erect bristle on the exterior side before the tips; claws and pulvilli very small.

I know five N. A. species of this family, four of which belong to the genus HETERONEURA *Meig.;* the fifth cannot be conveniently placed in any of the genera as yet established.

Fam. XLIX. OPOMYZIDAE.

Charact.—Front with stout bristles above; clypeus rudimentary; border of the mouth either pubescent or with long hairs, the foremost of which sometimes forms a distinct vibrissa. Proboscis short; palpi rather small. Middle tibiæ with a distinct, posterior tibiæ with a very short spur; the exterior side of the tibiæ without erect small bristle before the tip; claws and pulvilli small. Wings elongated and narrow, with no bristles at the costa; the axillary incision and alulæ are either wanting or very diminutive. First longitudinal vein much abbreviated; the auxiliary vein becomes obsolete before reaching completely the first longitudinal vein; the latter emits, shortly before its end, towards the costa, a branch, which may be considered as the end of the auxiliary vein; basal cells small.

No species belonging to this family has as yet been noticed in N. A.

Fam. L. SEPSIDAE.

Charact.—Head rounded; front bristly; border of the mouth more or less hairy, the foremost hair often imitating a vibrissa; clypeus rudimentary; proboscis short; palpi exceedingly small or wanting. Abdomen tapering towards the base. Middle tibiæ with distinct spurs; claws and pulvilli small. Neuration of the wings complete; the auxiliary vein distinctly separated from the first longitudinal vein; the two posterior basal cells rather large.

The most essential character of this family is the rudimentary condition of the palpi. With this exception its characters are rather similar to those of the *Micropezidæ.* The genus *Cephalia* approaches very much the *Sepsidæ* in structure, but its incrassated proboscis, its large and broad palpi, and its considerably developed clypeus prevent it from being reunited with them; it must, therefore, remain among the *Ortalidæ.*

The species of *Sepsidæ* occurring in N. A. belong to the genera Nemopoda and Sepsis, and are, in part, identical with European species.

FAM. LI. DIOPSIDAE.

Charact.—Neuration of the wings incomplete from the absence of the foremost of the two small basal cells; the auxiliary vein very much approximated to the first longitudinal vein. Head prolonged in two lateral apophyses bearing the eyes; front bristly only on the upper part; border of the mouth with no vibrissæ. Anterior femora incrassated.

One species, or—if the second one, described by Dr. A. Fitch, should really prove different—two species of the genus SPHYRACEPHALA *Say* have hitherto been found in N. A.

FAM. LII. PIOPHILIDAE.

Charact.—The auxiliary vein, on its whole length, is coalescent with the first longitudinal vein; with this exception the neuration of the wings is complete. Front with some small bristles above only; border of the mouth with a vibrissa on each side; clypeus rudimentary; legs rather stout, almost of the structure of those of the *Sciomyzidæ;* middle tibiæ with spurs; all the tibiæ without erect bristle on the exterior side before the tip.

The three N. A. species of PIOPHILA which I have seen are quite identical with European ones; a fourth differs so much from all the known *Piophilæ* in the form of the head and the structure of the antennæ, that it must be considered as the type of a new genus. It seems to be the same species on which Mr. Walker has founded his genus PROCHYLIZA; if that be really so, he would, by assigning it a place immediately by *Chyliza*, have shown that he had been fully mistaken about its true relation.

FAM. LIII. EPHYDRINIDAE.

Charact.—Face convex, with no distinct furrows for the reception of the antennæ and without vibrissæ, though frequently beset with hairs or bristles; clypeus very much developed; opening of the mouth large; proboscis incrassated with a swollen chin. Neuration of the wings incomplete; the auxiliary vein distinct only at its base; the foremost of the two small basal cells reunited with the discal cell. Middle tibiæ with spurs.

They are divided into three sections: *Notiphilina*, *Hydrellina*, and *Ephydrina.* The *Notiphilina* are characterized by the second joint of the antennæ being unguiculate. The *Hydrellina* and *Ephydrina*, in which that joint is not unguiculated, differ from each other by the former having the eyes hairy and the latter bare.

The N. A. species hitherto recorded have been so badly characterized that there is no possibility to decide to which section, and of course far less to which genus they belong. The species which I am acquainted with and have described in the following pages, are distributed among the three above named sections as follows: I. *Notiphilina:* 1. DICHÆTA *Meig.* with two European species; 2. NOTIPHILA *Fall.* five species; 3. PARALIMNA *Loew*, one species; 4. PSILOPA *Fall.* five species; 5. DISCOCERINA *Macq.* five species. II. *Hydrellina:* 6. HYDRELLIA *Desv.* six species; 7. PHILYGRIA *Stenh.* three species. III. *Ephydrina:* 8. OCHTHERA *Latr.* four species, one of which is identical with a European species; 9. BRACHYDEUTERA *Loew*, one species; 10. PARYDRA *Stenh.* two species; 11. EPHYDRA *Fall.* one species; 12. SCATELLA *Desv.* three species, one of which cannot be positively distinguished as yet from a European species.

FAM. LIV. GEOMYZIDAE.

Charact.—Front with stout bristles above; border of the mouth with vibrissæ. Clypeus rudimentary. Middle tibiæ with spurs; all the tibiæ with a small erect hair on the exterior side before the tip. Wings with bristles on the costa; first longitudinal vein exceedingly abbreviated, and the auxiliary vein so approximated to it that it is distinctly separated from it only towards the base; the two posterior basal cells very small.

I know only one species of this family indigenous in N. A. and belonging to the genus DIASTATA. Mr. Walker records an insect which he believes to be likewise a *Diastata.*

FAM. LV. DROSOPHILIDAE.

Charact.—Front with bristles above; face with distinct sub-antennal furrows; at the border of the mouth there is a feeble, frequently rather indistinct small vibrissa. Middle tibiæ with very feeble spurs; on the exterior side of the tibiæ there is either a very small or no erect bristle before the tip. Wings without bristles on the costa; the first longitudinal vein is exceedingly abbreviated; of the auxiliary vein there is only a rudiment; the discal cell is usually, but not in all genera, united with the foremost of the two small basal cells. Claws and pulvilli very small.

Numerous species of DROSOPHILA are found in N. A., some of which are perfectly identical with European species, and one STEGANA, the difference of which from the European *Stegana hypoleuca* is at least liable to doubt.

FAM. LVI. OSCINIDAE.

Charact.—Front without bristles, the crown having only a few short ones; border of the mouth without vibrissæ, which, however, are represented sometimes by a small hair on each side. Middle tibiæ with small spurs; all the tibiæ without erect bristle on the exterior side before the tip. Costa of the wings without bristles. The auxiliary vein is completely wanting; the anterior of the two small basal cells is united with the discal cell, the posterior one is totally wanting.

The N. A. species of this family known to me are distributed among the genera CHLOROPS, CRASSISETA, SIPHONELLA, MEROMYZA, and OSCINIS. The species described by Wiedemann under the name of *Homalura plumbella* likewise belongs to the genus *Siphonella.* Macquart has established a genus, ECTECEPHALA, on a N. A. species, and he says it is nearly related to *Platycephala* and *Eurina;* if that is really the case, it must also be recorded here.

FAM. LVII. AGROMYZIDAE.

Charact.—Front with strong bristles; border of the mouth with a vibrissa on each side. Middle tibiæ with a terminal spur; all the tibiæ on the exterior side without erect bristle before the tip. Wings without bristles on the costa; first longitudinal vein very short, and the auxiliary vein connected with it at the tip; basal cells existing, but small; posterior transverse vein generally far distant from the border of the wing.

The N. A. species which I have seen belong to the genera AGROMYZA, LOBIOPTERA, and MILICHIA.

FAM. LVIII. PHYTOMYZIDAE.

Charact.—Front bristly; border of the mouth with vibrissæ on each side. Middle tibiæ with spurs; all the tibiæ without erect bristle on the exterior side. Wings without bristles on the costa; first longitudinal vein very short; auxiliary vein connected with it at the tip; basal cells existing, but small; posterior transverse vein wanting.

The genus PHYTOMYZA is represented in N. A.

FAM. LIX. ASTEIDAE.

Charact.—Front bristly above; border of the mouth with a vibrissa at each side. Middle tibiæ with spurs; all the tibiæ without erect bristle on the exterior side. Wings without bristles on the costa; first longitudinal vein exceedingly short; auxiliary vein connected with it only at the tip; second longitudinal vein very short; two posterior basal cells as well as the posterior transverse vein wanting.

No N. A. species of this small family is as yet known.

FAM. LX. BORBORIDAE.

Charact.—Thorax, scutellum, and abdomen flat; front bristly; face excavated, with a vibrissa on each side of the border of the mouth; clypeus developed; first joint of the posterior tarsi abbreviated. Neuration of the wing incomplete, only a commencement of the auxiliary vein being at best visible; the hindmost two basal cells are not complete in all genera.

N. A. seems to possess numerous species of the genus BORBORUS, which have not yet been carefully compared with the European species. One species taken in Cuba is identical with an African one.

FAM. LXI. PHORIDAE.

Charact.—Antennæ apparently single jointed, with a long bristle. Wings with several stout veins running into the costa, and three or four weak ones, which run across the surface of the wings and are not completely connected with the hindmost of the stout veins, from which they appear to issue. Femora flattened.

Many species of PHORA seem to occur in N. A.; their form, as far as I am acquainted with them, differs in no way from that of the European ones.

III. CORIACEA.

Fam. LXII. HIPPOBOSCIDAE.

Charact.—Head flattened; first joint of all the tarsi, or at least of the anterior and middle tarsi, abbreviated.

N. A. possesses species of the genera Hippobosca *Linn.*, Melophagus *Latr.*, Ornithomyia *Leach*, and Olfersia *Wied.*, several of which are perfectly identical with European species.

Fam. LXIII. NYCTERIBIDAE.

Charact.—Head not flattened; first joint of all the tarsi rather long or very long, in comparison with the following.

One Strebla only and a species belonging to a new genus are known to me as occurring in N. A.

II.

ON THE NORTH AMERICAN TRYPETIDAE.

1. *Extent of the family* TRYPETIDÆ.

In stating that the family of *Trypetidæ* comprises the genera *Trypeta* Meig. and *Dacus* Wied. we define its limits as exactly as is possible before having developed its character.

The genus *Trypeta* was founded by Meigen in *Illiger's Magazine* II, 277, 94. Shortly after, the same genus was published in *Schrank's Fauna Boica* under the name of *Trupanea*, and still later, it appeared in Latreille's writings, in a more vague circumscription, under that of *Tephritis.*

The number of species belonging to it has so much increased since the time of its creation, and so considerable differences in their organization have been observed, that not only the limits of the genus have become a little uncertain, but also the necessity of a division into smaller genera was felt, and more than one attempt to satisfy this want has been made.

The first attempt, abortive both from the choice of unfit characters and from the vagueness of the observations used as foundation for the characters, was made by Robineau Desvoidy, who distributed the species known to him among the genera *Ensina, Stylia, Oxyna, Oxyphora, Terellia, Forellia, Xyphosia, Sitaria, Orellia, Tephritis, Urophora, Aciura, Prionella, Sphenella, Urellia, Acinia,* and *Nœeta,* to which his genera *Acidia* and *Strauzia* must be also added.

Subsequently Macquart reunited these genera into five: *Urophora, Terellia, Tephritis, Acinia,* and *Ensina,* to which he added the genus *Ceratitis* M'Leay, which he had previously described himself under the name of *Petalophora.* Later, in the "*Diptères exotiques,*" he added *Acanthoneura, Campylocera, Meracantha, Toxura,* and *Epicerella;* the four last, however, if we may depend on his descriptions and figures, must be placed among the *Ortalidæ.*

Mr. Walker, in the "List of the Diptera of the British Museum," adopted the genera of R. Desvoidy, after modifying the characters of several of them, and retained the genera *Anomoia* and *Euleia*, which he had previously founded himself; besides, he erroneously brought again among the *Trypetidæ* the genus *Camptoneura*, which Macquart had formed on *Trypeta picta* Wied., and correctly placed among the *Ortalidæ.*

The most recent attempt at a detailed classification of the European species of the old genus *Trypeta* is that given by Rondani in his "*Prodromus Dipterologiæ italicæ.*" He retains—though in a much altered sense—the genera of R. Desvoidy: *Oxyna*, *Urophora*, *Rivellia*, *Tephritis*, *Acinia*, *Aciura*, *Terellia*, and *Orellia*, and adopting the genus *Ceratitis* M. Leay and *Myopites* Breb., he creates the following new genera: *Goniglossum*, *Carpomyia*, *Cerajocera*, *Chetostoma*, *Epidesmia*, *Myoleja*, *Spathulina*, *Dithryca*, and *Oplocheta.* But these genera are less fit for reuniting what is really allied, than for isolating out of their nearest relationship such species as are distinguished by any specific peculiarity and for crowding them inordinately together. The dichotomic division of genera from single characters without any indication of the true generic distinctions, renders it impossible to refer to them the other species described by authors, and it is not at all sufficient for this purpose to name a typical species, especially as some of these typical species have not yet been described, and the correctness of the names of the others is not proved. Moreover, the characters ascribed by Rondani to the single genera are not all quite certain, and some of them, for instance the scutellum of *Myoleja*, which is said to have two bristles, the scutellum of *Ceratitis* six bristles, appear to be errors of the observer.

If we add to what we have said already that the genera *Xarnuta*, *Themara*, *Calantra*, and *Aragara*, erected by Walker in the "Proceedings of the Linnæan Society," with some probability belong here, and that perhaps the genus *Dasyneura* Saund., and *Rachiptera* and *Elaphromyia* Bigot are *Trypetidæ*, both the variety of the forms belonging to the genus *Trypeta* Meig. and a picture of the chaotic state into which their arrangement has been thrown will be sufficiently illustrated.

The genus *Dacus*, restricted by Meigen to the *Dacus Oleæ* Fabr. (the renowned blight of the olive) and used by Wiedemann in a wider sense, is nearest related to the genus *Trypeta* Meig.; Fabricius, who formed this genus, comprises so different species in it that we may scarcely consider it as a creation of his. However striking the difference may be between the greatest part of the species of *Trypeta* and the larger naked species of *Dacus*, yet some of the latter approach very much to the larger species of the polymorphous genus *Trypeta*, and show the near relation of both genera. Wiedemann, misled by some *Trypetæ*, had become uncertain about the limits between the genera *Dacus* and *Trypeta*, or he would not have placed the large Brazilian *Trypeta parallela* among *Dacus*. One of the surest marks for separating both genera is furnished by the structure of the female abdomen, which in *Trypeta* shows five, in *Dacus* four segments before the borer, the fifth being very short and concealed under the fourth. None of the other characters, however marked they may appear, is so constant as this. Macquart has already justly observed that the whole of the first group of *Dacus* Wied. is not only a stranger to this genus, but cannot even remain in the same family with it; therefore giving it the generic name of *Senopterina* (which must be mended into *Stenopterina*), he assigned it its right place in the *Ortalidæ*, as will be detailed in the sequel. Among the new genera introduced by Macquart, *Leptoxys* and *Enicocera*, perhaps also *Cardiacera*, may be very nearly related to the genus *Dacus*, which cannot be, however, asserted positively, on account of the insufficiency of Macquart's statements and the incorrectness of his figures. The genus *Bactrocera*, founded by Guérin, seems also to belong here. The same, perhaps, may be said of the genera *Rioxa* and *Strumeta*, formed by Walker in the "Proceedings of the Linnean Society," while the genus *Dasyneura* of Saunders, which Walker in the "List of the Diptera of the British Museum" places near *Dacus*, seems to stand much nearer to *Trypeta*.

The species of the genus *Trypeta* and those smaller genera which either have been comprised in *Trypeta* or founded in its neighborhood, together with the species really belonging to *Dacus* and the smaller genera subordinate to or co-ordinate with it in a similar way, form the family *Trypetidæ*, one of the group of closely related families of the *Acalyptera* which are characterized by their corneous ovipositor.

2. *Division of the family into* TRYPETINA *and* DACINA.

A division in two groups may be established as above indicated. The two groups would be: *Trypetina*, with five distinct segments of the female abdomen, and *Dacina*, with apparently four segments. The latter, moreover, have some peculiarities in the structure and neuration of their wings, which, however, allow of no very sharp limitation. Most frequently a dilatation of the second basal cell and of the space between the third and fourth longitudinal veins (in consequence of which the second longitudinal vein is pushed towards the costal margin) and the posterior angle of the anal cell extended in a long point, are the most striking peculiarities in the structure of the wings. But a sharp limitation of the two groups is perhaps not to be urged too much, as transitions from the one to the other are certainly not wanting, and another division quite as useful seems to be possible. In the mean time the groups *Trypetina* and *Dacina*, as we have defined them, are characterized as well as our purpose requires. We have now to fix the relation of the family *Trypetidæ* to the nearest families, particularly to that of *Ortalidæ*, since almost all authors have mixed the species of these two families. For this purpose we want only to find out the natural character of the family, which cannot be obtained but from a close examination of the greatest possible number of species and from a careful appreciation of the systematic value to be assigned to the observed peculiarities and differences.

3. *Natural character.*

After examining nearly 300 species from different parts of the world, I believe I may speak as follows about the organization of the *Trypetidæ.*

The bare eyes, in both sexes, are separated by the front, which is of equal breadth or only a little narrowed anteriorly. The middle of the front is not sharply separated from the lateral lists, but has often a different color. The front is even, usually with an almost microscopic, rarely with a longer pubescence, sometimes it is totally bare. On its vertical border it always bears two very strong bristles, rather distant from each other. Two short callosities, usually little perceptible, run from them, converging but faintly anteriorly, and bearing one or two bristles directed upwards. On the vertical border itself there are two bristles, each near the upper angle of the eye, and in the middle behind the ocelli there is another pair of bristles, sometimes very stunted. This is also the case with a pair of bristles directed anteriorly, and inserted between the ocelli. More anteriorly on the front there are, at each side of the orbit, two or three stouter bristles, but generally less stout in the *Dacina* than in the *Trypetina*, whereas in the males of some *Trypetina* they are thickened into spines, or even inserted upon lateral processes. The little crescent cut off by the frontal fissure is often very distinct, though never very large. The antennæ are directed downwards, the third joint elongated or long; the bristle nearly bare, or with a very short pubescence; only in a few species it has longer hairs, but is never pectinated. The face shows below each antenna a flat excavation, more deepened in those few species which have a keel in the middle of the face; the anterior border of these excavations forms a more or less distinct elevation, and sometimes almost a keel. The cheeks are more or less hairy; in a few *Trypetina* the furthermost hairs almost have the appearance of vibrissæ, which, however, are never present. All more naked species have also less hairy cheeks. The proboscis is never much thickened; the suctorial flaps are sometimes very short and rather broad, sometimes rather long, sometimes of an extraordinary length, as for instance in the species of *Myopites* Breb., where they seem to become much stouter, which was the reason why a species of *Myopites* was placed by Fabricius in *Stomoxys.* The prolongation of the suctorial flaps is proportionate to that of the stem; not unfrequently in most nearly related species the structure of the proboscis seems to be very different; but on a closer examination this difference appears not to be essential, and cannot even always be used in characterizing the small genera into which the genus *Trypeta* Meig. has been divided. Among the *Dacina* I have never seen a species with a very prolonged proboscis. The oral cavity is large, sometimes very large and widened, and not seldom a little prolonged at its anterior border; its form depends very much on that of the proboscis; for in those species which have a very long proboscis, the anterior border of the mouth is usually also much more projecting. The palpi are either more applied to or more laid upon the labium, when it is retracted into the mouth-hole; their form is more or less spatulate, and generally more elongated in those species which have a long proboscis than in those with a short one. The clypeus owing its origin to a duplication of the skin which connects the stem of the labium with the border of the mouth is narrow, and being concealed within the mouth-hole can only be seen anteriorly in those species in which the anterior part of the peristoma is more drawn upwards.

There is no striking peculiarity in the structure of the thorax. The transverse suture, in agreement with nearly all the Acalyptera, is distinct in the neighborhood of the lateral border, and totally obsolete in the middle of the thorax. The bristles of the thorax not only offer good specific characters, but sometimes also prove very fit for the separation of genera. In that respect the bristles of the middle of the upper side of the thorax deserve attention; in those species in which their number is the most complete there are three pairs, one before the suture, the second behind the suture, the third a little before the scutellum. More frequently only the second and third pair of these bristles are present, sometimes only the third; in almost all African species of *Dacus* they are all wanting. Besides these bristles of the middle of the thorax there are two rows of bristles on each side; the exterior row consists of four bristles, the first of which stands on the humeral callosity, and is often wanting in the *Dacina;* the second has its place before the transverse suture; the third, which is often much weaker than the others, in the lateral dilatation of the transverse suture; the fourth above and a little behind the base of the wing. The interior row consists of three bristles only, corresponding to the three last bristles of the exterior row, but is placed a little more backwards than these. The scutellum, which is more or less convex, generally bears four stout bristles, but in many *Dacina* and some *Trypetina* only two; there is sometimes on each side a weaker bristle between the stout ones.

The abdomen of the male shows only four distinct segments, the last of which is more or less elongated. The abdomen of the female has five segments before the borer, and the last of them in the *Trypetina* is always distinct, whereas in the *Dacina* it is very small, and so concealed under the fourth segment that the abdomen of the female seems to consist only of four segments. That segment which is usually numbered the first, and will also be numbered so in the following descriptions, seems to be composed of two segments soldered together. In many *Dacina* we also see the next segments more or less completely coalescent on their upper side. The borer of the female is always of a corneous substance; it is formed of three segments, which are retractile like the drawers of a telescope, and often very long; the last ends in a simple more or less sharp point; the first segment is either more conical, or more cylindrical, and then usually thick at its base, or it is quite flat; in most species it is hairy, in others it is beset with hairs at the tip only; in others again is quite bare; its length varies exceedingly in the various species; the second and the third segments of the borer are always bare. To the length of the borer of the female corresponds that of the thread-like penis of the male. The hairs of the body are sometimes fine and short, sometimes coarse and long; in the latter case the posterior margin of the abdominal segments is generally beset with bristles, which in the species having fine and short hairs, are either totally wanting or are present only at the posterior borders of some segments, most frequently on that of the last.

The legs are always of moderate length, and of a rather robust structure; they are beset everywhere with short hairs, which become longer on the upper side of the posterior tibiæ of some species. There are usually some longer bristles on the under side of the anterior femora, and frequently also on their upper side; similar bristles exist on the posterior femora of several species, and sometimes even on the middle femora. The tips of the middle tibiæ are always spurred; otherwise, the tibiæ have no bristles. It is very characteristic for all the *Trypetidæ* that the erect bristles are totally wanting, which some allied families, for instance the *Sapromyzidæ*, possess on the outside of the tibiæ, not far from the tip. The first joint of the tarsi is always prolonged. The claws and pulvilly are small, and of equal form in both sexes.

The neuration of the wings is that of *Acalyptera* in its highest perfection, and shows many characters peculiar to this family. The auxiliary vein is separated from the first longitudinal vein, though often approximated to it, especially in some *Dacina;* it never runs in the usual way, that is, at an acute angle and with equal distinctness as far as its end or even incrassating towards the border of the wing, but turns suddenly towards it, and, at the same time, becomes much more indistinct, the more so as the space between its end and that of the first longitudinal vein is incrassated. At the place where it runs into the border of the wing, the latter bears a small marginal spine, quite indistinct in many species, and which cannot, therefore, be considered as one of the characters of the *Trypetidæ*. Generally the whole length of the first longitudinal vein is beset with bristles; this is also most frequently the case with the base, or a greater part, or even the whole length of the third longitudinal vein; much more seldom there are bristles on the fifth longitudinal vein. The two small basal cells are proportionately large; the posterior of them, *i. e.*, the anal cell in most, but not all species, has its posterior angle drawn out into a point. The thickening of the costal vein always reaches to the fourth longitudinal vein. The surface of the wing has in all species a microscopic pubescence.

From the above enumerated structural peculiarities we may derive the following characters for the family of *Trypetidæ*:—

1. The borer of the female is corneous, three-jointed, and ends in a simple point; the penis of the male answers the borer in length, and is thread-like and not divided at its end.
2. The front is broad in both sexes, and there are stout bristles on the anterior part of its lateral border, not belonging to the row which descends from the vertex, but forming a separate row which is placed nearer to the lateral border of the front.
3. There are spurs at the end of the middle tibiæ, and no bristles whatever on all tibiæ, except, in a few species, bristle-like hairs on the upper side of the posterior tibiæ.
4. The neuration is the completest among the *Acalyptera*; the auxiliary vein takes a steep turn towards the border of the wing, and becomes indistinct towards its end.

4. *On the relations of this family.*

The family most nearly related to the *Trypetidæ* is that of the *Ortalidæ*. The two principal characters, by which the former are distinguished from the latter, are the stout bristles existing on the anterior part of the lateral border of the front, and the steep direction in which the tapering end of the auxiliary vein runs to the border of the wing. Both these characters are very constant; should it happen that one of them is less sharply expressed, the other will be the more striking, and so an absolute certainty is afforded about the limits of these two families, the species of which have hitherto been so much mixed together.

The *Pallopteridæ* and *Lonchæidæ* are not quite so nearly related to the *Trypetidæ* as the *Ortalidæ*. They also want the bristles on the anterior part of the lateral border of the front, and the end of the auxiliary vein never shows the peculiarity which characterizes the *Trypetidæ*. Moreover, their basal cells are smaller, and the first longitudinal vein never has any bristles, but only a short pubescence like that of the remainder of the surface of the wing.

The *Lauxanidæ* and *Sapromyzidæ* have still less relation to the *Trypetidæ*. They are readily distinguished from the *Trypetidæ* by their middle and hind tibiæ being spurred with bristles before their tip, and the outside of the tibiæ bearing an erect bristle before the tip; the first longitudinal vein of the wings has no bristles, and the end of the auxiliary vein never has the character peculiar to that of the *Trypetidæ;* the two posterior basal cells are small; the bristles on the anterior part of the lateral border of the front are wanting; in this respect we must not be deceived by the rows of bristles, which run from the two bristles of the vertical border, and which, being more scattered, extend farther anteriorly; there always exists only a single row of bristles, whereas the frontal bristles in the *Trypetidæ* always form two rows on each side, one of which may be called the superior and interior, the other the inferior and exterior.

With the exception of the families mentioned above there is no other so nearly allied to the *Trypetidæ*, that it would be necessary to point out its differences.

5. *On the N. A. species hitherto recorded.*

What has been written about the N. A. *Trypetidæ* is very little in amount. No species at all of the section *Dacina* has been described. I have, however, seen the fragments of a fly captured in Cuba, which belongs either to *Dacus* or to one of the nearest genera of the *Ortalidæ;* but as it is one of those osculating forms between the two allied families, nothing can be said with certainty about its systematic place before having seen a better preserved specimen.

The N. A. *Trypetæ* hitherto recorded are as follows:—

1. **acidusa** *Walk.*, unknown to me, is either a relation of *Tryp. suspensa* and *unicolor*, the descriptions of which will be given hereafter, or belongs to those species similar to them which have the fifth longitudinal vein also beset with bristles.
2. **albiscutellata** *Harr.* must be omitted, since it is undescribed.
3. **antillarum** *Macq.* belongs to the *Ortalidæ*, being erroneously placed by Macquart in *Urophora*, a genus of the *Trypetina*.
4. **arcuata** *Walk.* differs in nothing from *Tryp. flexa* Wied. and belongs to the *Ortalidæ*.

5. **armata** *R. Desv.*, published by the author as *Strauzia armata*, is *Tryp. longipennis* Wied. ♂.
6. **asteris** *Harr.;* the description being unfortunately inaccessible to me, I can say nothing about it. The name is preoccupied by Mr. Haliday.
7. **avala** *Walk.*, quite unknown to me; Mr. Walker's statements are not sufficient to decide whether it belongs to the *Ortalidæ* or not.
8. **beauvoisii** *R. Desv.;* the description is too bad to allow its true position to be determined; but it is certainly not among the species known to me.
9. **caliptera** *Say* is *Tryp. sparsa* Wied.; the older name deserves the preference, the more so as that of Say is not correct.
10. **cinctipes** *Harr.* is an undescribed species, and must be therefore omitted.
11. **comma** *Wied.* a good species and readily recognizable; not possessing it, I cannot give a more detailed description; but having seen it in some collections, I subjoin a fugitive sketch of the reticulation of the wing (Tab. II, fig. 28), trusting that by this figure and Wiedemann's description the species will be recognized. It is not quite certain whether Macquart's *Acinia comma* is the same, since he says that the posterior border of the wings has a large clear spot, which was not the case with the individuals of the genuine *Tryp. comma* Wied. which I have seen. The clear drops near the end of the sixth longitudinal vein being very much crowded, their eventual coalescing into a larger clear spot does not seem impossible.
12. **cornigera** *Walk.* is identical with *Tryp. longipennis* Wied.
13. **cornifera** *Walk.* is a slight variety of *Tryp. longipennis* Wied., in which the bands of the posterior border of the wings are obsolete, which is not seldom the case.
14. **culta** *Wied.* (not *cutta*, a misprint corrected by Wiedemann himself). It is a relation of the European *Tryp. reticulata* Schrank, and Wiedemann's description is sufficient for recognizing this species. On Tab. II, fig. 29, I subjoin a sketch of the reticulation of the wings, which I made several years ago; though the circumference of the wing may not be quite correct, yet the species will, I hope, be recognized from it.
15. **dinia** *Walk.* seems to be a *Trypeta* related to the European *Tryp. rotundiventris* Fall., *tibialis* R. Desv., etc. It may stand nearest to *Tryp. insecta*, the description of which follows hereafter.
16. **electa** *Say* will be exactly described in the sequel.
17. **fimbriata** *Macq.* is *Tryp. culta* Wied.
18. **flavonotata** *Macq.* is *Tryp. electa* Say.
19. **flexa** *Wied.* is by no means a *Trypeta*, but an *Ortalis* not rare in collections.
20. **fucata** *Fabr.* seems to be a true *Trypeta*, but will be rather hard to recognize, unless an original specimen can be compared.

21. **fulvifrons** *Macq.* I hardly conceive how Macquart could locate among *Urophora* a species which is an *Ortalis*, and nothing else but *Ortalis ænea* Wied.

22. **inermis** *R. Desv.*, published by the author as *Strauzia inermis*, is *Tryp. longipennis* Wied. ♀.

23. **interrupta** *Macq.* seems to be an *Ortalis* related to *Herina rufitarsis* Macq., if it is not a mere variety of this species, so variable in the color of its body; moreover, it is so vaguely described that it is not possible to say anything with certainty about it.

24. **latipennis** *Macq.*, described by Macquart under the name of *Platystoma latipennis;* it is, however, certainly a *Trypeta*, and I hope not to be mistaken in identifying it with *Tryp. sparsa* Wied.; the representation of the head is certainly nothing but the invention of the draughtsman, or a foreign head had been glued to the specimen.

25. **lichtensteinii** *Wied.* I have seen this beautiful species about sixteen years ago, and made a sketch of the picture of the wing, which I give in Tab. II, fig. 25. The bristle of the antenna is thickened at its base in a rather striking manner.

26. **longipennis** *Wied.* will be more accurately described in the sequel. The name of it is ascertained from the inspection of the originals. It is surprising that Wiedemann does not mention the thickening of the frontal bristles of the male, though the males in his collection show it. Perhaps he had specimens enough to satisfy himself that this peculiarity is not constant.

27. **marginepunctata** *Macq.* is unknown to me.

28. **melliginis** *Fitch* belongs to the *Ortalidæ*, and is *Herina rufitarsis* Macq.

29. **mevarna** *Walk.*, a *Trypeta* which has the apex of the wings only reticulated, and is allied probably to the European *Tryp. stellata* Füssl. Among the below described species *Trypeta solaris* may have the greatest resemblance to it.

30. **mexicana** *Wied.* seems to be a *Trypeta;* the original perhaps exists in the Berlin Museum. It is none of the species known to me.

31. **narytia** *Walk.* I believe it also to be a *Trypeta;* it is likewise not among my species.

32. **novæboracensis** *Fitch* is the same species as *Tryp. sparsa* Wied. and *caliptera* Say.

33. **nigriventris** *Macq.* probably a *Trypeta* of the group of *Tryp. rotundiventris* Fall.

34. **obliqua** *Macq.*, a *Trypeta*, which seems to be nearly allied to *Tryp. suspensa* from Cuba and *Tryp. unicolor* from New Granada, but differs from both by its small transverse vein having an inclined position, and the first hyaline band running uninterruptedly from the border of the wing to the anterior of the two small basal cells, whereas in those species it is interrupted not far from the costal border.

35. **obliqua** *Say* seems to be related to the European *Tryp. Arctii* Deg. and the below described *Tryp. palposa* from North Wisconsin; the latter has on its abdomen four rows of black spots, whereas *Tryp. obliqua* Say has only two.
36. **ocresia** *Walk.* apparently related to *Tryp. unicolor* from New Granada, but it cannot be identified with this or any other species known to me. The description given by Walker is very vague.
37. **picta** *Fabr.* a *Camptoneura* and consequently an *Ortalideous* species.
38. **quadrifasciata** *Macq.* I believe it to be a *Trypeta* which I do not possess.
39. **quadrifasciata** *Walk.* belongs to the *Ortalidæ* and is *Herina rufitarsis* Macq.
40. **quadrivittata** *Macq.* belongs to the *Ortalidæ.*
41. **scutellaris** *Wied.* I have seen the typical individuals of this beautiful species in the Berlin Museum sixteen years ago. If I recollect right, there were bright bands of a more black than brown color on the two last segments only of the abdomen in the male, but on all segments in the female. I was surprised to see in the female the markings of the wings (Tab. II, fig. 27) more extended than in the male (Tab. II, fig. 26).
42. **scutellata** *Wied.* a *Trypeta* quite unknown to me.
43. **septenaria** *Harr.* must be omitted as being undescribed.
44. **solidaginis** *Fitch* has been amply described in the sequel.
45. **sparsa** *Wied.* I give a detailed description of it.
46. **tabellaria** *Fitch*, not among the *Trypetæ* known to me, nor does it seem to belong to them, but is probably an *Ortalida.*
47. **tribulis** *Harr.* not described and therefore to be omitted.
48. **trimaculata** *Macq.* is the same variety of *Tryp. longipennis* Wied. which Walker has described under the name of *Tryp. cornifera.*
49. **trifasciata** *Harr.* must be omitted as being undescribed.
50. **villosa** *R. Desv.* may be a *Trypeta*, but is so badly described that there is scarcely a possibility to recognize it.

The result of the remarks given about the enumerated 50 species will consequently be as follows:—

1. Five species must be omitted, because they have never been described: *albiscutellata* Harr., *cinctipes* Harr., *septenaria* Harr, *tribulis* Harr., and *trifasciata* Harr.
2. Fourteen species must be blotted out as identical with species previously described: *arcuata* Walk., *armata* R. Desv., *caliptera* Say, *cornigera* Walk., *cornifera* Walk., *fimbriata* Macq., *flavonotata* Macq., *inermis* R. Desv., *latipennis* Macq., *marginepunctata* Macq., *melliginis* Fitch, *novæboracensis* Fitch, *quadrifasciata* Walk., and *trimaculata* Macq.

3. Of the remaining thirty-one species seven, the five first with all certainty, the two last with great probability, must be placed among the *Ortalidæ*. These are: *antillarum* Macq., *flexa* Wied., *fulvifrons* Macq., *picta* Fabr., *quadrivittata* Macq., *interrupta* Macq., *tabellaria* Fitch.
4. Consequently twenty-four N. A. *Trypetæ* have been described, namely: *acidusa* Walk., *asteris* Harr., *avala* Walk., *beauvoisii* R. Desv., *comma* Wied., *culta* Wied., *dinia* Walk., *electa* Say, *fucata* Fabr., *lichtensteinii* Wied., *longipennis* Wied., *mevarna* Walk., *mexicana* Wied., *Narytia* Walk., *nigriventris* Macq., *obliqua* Macq., *obliqua* Say, *ocresia* Walk., *quadrifasciata* Macq., *scutellaris* Wied., *scutellata* Wied., *solidaginis* Fitch, *sparsa* Wied., and *villosa* R. Desv.
5. Of these twenty-four species I possess four only [now five.—O. S.], which I shall fully describe hereafter; they are: *electa* Say, *longipennis* Wied., *solidaginis* Fitch, *sparsa* Wied. [and *obliqua* Say.—O. S.]. Moreover I have seen in other collections four species; they are: *comma* Wied., *culta* Wied., *lichtensteinii* Wied., and *scutellaris* Wied. As an addition to my paper I subjoin the descriptions which Wiedemann has given of them, and accompany them with drawings of the wings, which, however, on account of their being only fugitive sketches, have not the same claim to correctness as the figures of the wings of the other species.

6. *On the systematic arrangement of the species to be described.*

Besides the above mentioned four species I have to describe nineteen new ones, which I leave all united in the genus *Trypeta.* Though they differ in their organization, I think my course is both reasonable and proper. It has been already sufficiently shown, how very uncertain the limits of the family *Trypetidæ* are. For the immediate purpose, it will be quite sufficient if insects of other families are no longer mixed with these. The number of accurately known species must increase considerably, before a convenient classification can be thought of.

The smaller genera hitherto founded on the various forms of the *Trypetina* are partly formed on European species, partly established in a very superficial manner on single species of other parts of the globe. Among the former there are some, which are available or may be rendered available by removing the aberrant species from them; the remaining genera either have no claim to the names of genera, or are understood by different authors in so different a sense as to render their adoption more perplexing than useful. But a few of the available genera are represented in North America. The genera created for single species have usually been established on account of a single striking character, no information being given about the other characters; so it will be next to impossible to place new species in such genera without incurring the risk of gross mistakes.

Such being the case, I will be justified, I think, in comprising all species under the head of *Trypeta,* in the sense of Meigen and Wiedemann. I should be glad indeed if by the communication of numerous species I was enabled to divide the N. A. *Trypetina* into smaller genera. To obtain numerous species is only possible by breeding them, which is a very easy task; for the larvæ are easily discovered; they live in stalk-galls, or in berries and berry-like fruits; but most frequently in the flower-heads of *Compositæ,* among which they prefer the *Cynarocephalæ* to all others.

To prevent any misunderstanding I finally have to observe, that in the following descriptions, by the length of the borer I always meant the length of its first joint only, which is also comprised in the indication of the length of the females. The length of the whole borer depends so much on the more or less extension of its three segments, that no certain measure of it can be given.

*Synopsis of the species described in the sequel.**

1	Wings pictured (reticulate or banded).	2
	Wings not pictured, hyaline.	26
2	Wings banded.	3
	Wings reticulate.	15
3	Third longitudinal vein with bristles.	4
	Third longitudinal vein without bristles.	10
4	Abdomen black.	1 **discolor,** n. sp.
	Abdomen yellow.	5

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* If a species is not found among those enumerated in this synopsis, before pronouncing it to be new the Appendices I and II should be consulted. This table contains only species described from specimens, and not merely quoted from other works. O. S.

5	Face very receding.	2 **longipennis** *Wied.*
	Face not receding.	6
6	Back of the thorax not striped.	7
	Back of the thorax striped.	9
7	Abdomen with black dots.	**obliqua** *Say.**
	Abdomen without black dots.	8
8	The band rising over the posterior transverse vein is connected with the preceding on the posterior border.	3 **fratria**, n. sp.
	The band rising over the posterior transverse vein is not connected with the preceding.	4 **suspensa**, n. sp.
9	The two middle bands of the wing diverge towards the posterior border.	5 **unicolor**, n. sp.
	The two middle bands of the wing are converging towards the posterior border.	6 **electa** *Say.*
10	Thorax and abdomen differing in color.	7 **insecta**, n. sp.
	Thorax and abdomen of the same color.	11
11	Color of the body yellow.	12
	Color of the body black.	14
12	Abdomen with black dots.	8 **palposa**, n. sp.
	Abdomen without black dots.	13
13	Basal third of the wing hyaline.	**vernoniæ**, n. sp.†
	Basal third of the wing pictured.	9 **suavis**, n. sp.
14	Scutellum yellow.	10 **cingulata**, n. sp.
	Scutellum black.	11 **polita**, n. sp.
15	Wings much widened.	16
	Wings not widened.	17
16	Tip of the wings with an uninterrupted white seam.	12 **sparsa** *Wied.*
	Tip of the wings with an interrupted white seam.	13 **rotundipennis**, n. sp.
17	Proboscis geniculated.	18
	Proboscis not geniculated.	19
18	Stigma with a limpid drop.	14 **clathrata**, n. sp.
	Stigma without limpid drop.	15 **humilis**, n. sp.
19	Reticulation of the wing not radiating at its tip.	20
	Reticulation of the wing radiating at its tip.	21
20	Front exceedingly broad.	16 **solidaginis** *Fitch.*
	Front of moderate breadth.	17 **seriata**, n. sp.
21	Wings reticulate only on the apical half.	18 **solaris**, n. sp.
	Wings reticulate on their whole surface.	22
22	The whole reticulation equally broken.	19 **æqualis**, n. sp.
	The reticulation broken much less in the middle.	23
23	Abdomen yellow.	24
	Abdomen black.	25

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* See Appendix III.

† Ibid.

24	Reticulation paler in the middle.	20 **festiva**, n. sp.
	Reticulation everywhere of the same color.	21 **bella**, n. sp.
25	The curvature inside of the first posterior cell considerable.	22 **latifrons**, n. sp.
	The curvature inside of the first posterior cell very small.	23 **melanogastra**, n. sp.
26	Stigma fuscous.	**albidipennis**, n. sp.*
	Stigma pale.	**alba**, n. sp.†

7. *Description of the species.*

1. T. discolor Loew. ♂. (Tab. II, fig. 1.)—Lutea, abdomine nigro, alarum fasciis quatuor obliquis fuscanis, primâ et secundâ antice, tertiâ et quartâ postice connexis, venâ longitudinali tertiâ setosâ, venulis transversis valde approximatis.

Luteous yellow with the abdomen black; wings with four very oblique brownish bands, the two first being anteriorly, two last posteriorly connected; third longitudinal vein with bristles and the two transverse veins approximate. Long. corp. 0.13. Long. al. 0.15.

Yellow with a rather glossy black abdomen, which color becomes more blackish-brown near the base. Front proportionately rather narrow; three bristles at each side are of a browner color and directed anteriorly. Antennæ yellowish, not reaching as far as the border of the mouth; bristle of the antennæ thin, apparently naked. Face descending rather straight downwards, but little excavated. Opening of the mouth proportionately large. Proboscis short, palpi somewhat prominent. Upper side of the thorax with short yellow hairs and yellowish-brown bristles; it has no pale stripes, but there is an obsolete, paler, longitudinal stripe between it and the pleuræ. Pleuræ of the color of the upper side of the thorax, with yellowish bristles; the neighborhood of the coxæ is blackish. Scutellum with four bristles. Abdomen with short black hairs. Legs yellow, anterior femora with ochraceous bristles on the under side. Wings glassy with four very oblique brown bands, which are partly tinged with brownish-yellow on the inside. The first band begins at the base of the wing, where it is connected with the second, runs over the anal cell as far as the base of the third posterior cell, and, including the fourth longitudinal vein, projects a little, whereupon leaving the latter, it bends towards the posterior border of the wing, which it reaches in the middle between the tips of the fourth and fifth longitudinal veins; its color is yellowish-brown near the base of the wings and dark brown beyond the basal cell. The second band runs first from the base of the wing to near the tip of the first longitudinal vein, then crosses the wing obliquely, on the border of which it includes the tip of the fifth longitudinal vein; the two transverse veins are included by it in such a way that their anterior ends are placed exactly on the outside border of the band; the color of this band is brownish-yellow with darker brown edges which gradually overcome the lighter color at the posterior end; also that portion of it which covers the stigma and the space immediately beneath it, is dark brown. The third band begins on the costal border immediately behind the stigma and reaches the posterior border immediately behind the tip of the fourth longitudinal vein; it is brownish-yellow, edged with dark brown, the posterior end being likewise dark brown. The fourth band begins a little before the tip of the second longitudinal vein and runs on the border of the wing as far as the fourth longitudinal vein, where it is connected with the third band; its color is dark brown, being brownish-yellow only at its anterior end. The two transverse veins are very near each other and very steep; none of the longitudinal veins is extraordinarily arcuated; the second, third, and fourth longitudinal veins diverge a little at their tips; the bristles of the third longitudinal vein are very distinct and reach as far as its tip.

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* See Appendix III. † Ibid.

Hab. Cuba. (Riehl.)

2. T. longipennis WIED. ♂ & ♀. (Tab. II, fig. 2 ♂, 3 ♀.)—Flavá, angusta, rivulis fasciisque alarum angustarum flavo-fuscanis, facie valde recedente.

Yellow, slender; the narrow wings with brownish-yellow rivulets and bands; the face much receding. Long. corp. 0.17—0.26. Long. al. 0.22—0.30.

SYN. *Trypeta longipennis* WIEDEMANN, Auss. Zweifl. II, 483, 12.
Strauzia armata R. DESVOIDY, Myod. 719, 2. (♂.)
Strauzia inermis R. DESVOIDY, Myod. 718, 1. (♀.)
Tephritis trimaculata MACQUART, Dipt. exot. II, 226, 8. Tab. XXXI, fig. 3.
Trypeta cornigera WALKER, List. Brit. Mus. IV, 1010.
Trypeta cornifera WALKER, List. Brit. Mus. IV, 1011.

Very variable both in size and in the color of its body and wings, yet readily recognizable. In the palest individuals the whole body is yellow, only a very small dot immediately above the base of the wings and the tip of the borer being black. In darker individuals, the following markings appear successively: 1. A black double spot in the middle of the anterior border of the thorax; 2. A black spot on each side of the scutellum; 3. A broad black stripe on each side of the metanotum; 4. The black posterior portion of the lateral stripes; 5. The black anterior portion of the lateral stripes; 6. The double stripe in the middle of the thorax, abruptly ending in its centre. The head is rather bright yellow; front very prominent, face much receding; opening of the mouth not widened; palpi and proboscis short, yellow, the bristle with a very short pubescence. Frontal bristles black, the superior ones considerably stout, two of them on each side in the male assume the shape of straight spines, a little incrassated at their tips; in smaller males, however, these spines are not seldom only little stouter than in the females, and of the ordinary form. The lateral border of the thorax and the superior border of the pleuræ may have a pale yellow color in life; in dry specimens they are very whitish. From the pale yellow scutellum a broad pale yellow stripe extends to about the middle of the thorax. Hairs and bristles of the thorax black. Scutellum with four black bristles. Abdomen proportionately very narrow, with rather long black hairs. Borer about half as long as the abdomen, with the tip only blackened. Legs yellow, anterior femora with black bristles on the under side. Wings narrow and very long, more elongated and pointed in the males than in the females, but not always in the same degree; the brownish-yellow stripes and bands leave the following clear spots: 1. A space near the costal border between the transverse humeral vein and the tip of the auxiliary vein, and having usually a brownish spot in its middle; 2. An oval space immediately below the stigma between the third and fourth longitudinal veins; 3. A triangular space immediately beyond the tip of the first longitudinal vein, and reaching from the costal border as far as the third longitudinal vein; 4. An arcuated band running obliquely from the costal border between the two transverse veins as far as the fifth longitudinal vein; 5. A triangular space on the posterior border filling up the second posterior cell, with the exception of an edge along the veins; 6. An arcuate oblique semifascia beginning on the posterior border before the tip of the fourth longitudinal vein, and running as far as the third longitudinal vein; 7. The alary appendage, the posterior angle of the wing, and a large space adjoining it, and lying before the last longitudinal vein. The transverse humeral vein, and the space of the costa near it, are usually black as well as the space of the latter, where the costal spine is inserted. The brownish-yellow bands of the wings have narrow brown edges, and are in a greater or less extent brown near the tip and the posterior border of the wings. There are specimens in which the bands are much more extended, but those having a part of them obsolete are more common; this fading of the picture of the wings is most frequent in the neighborhood of the posterior border. The posterior transverse vein is a little oblique; the tips of the third and fourth longitudinal veins are curved. The circumference of the wings is not always the same in the males; those the frontal bristles of which are most thickened appear to have the most prolonged and pointed wings.

Hab. Middle States. (Osten-Sacken.)

Observation.—I have had an opportunity of examining the typical individuals of *Tryp. longipennis* Wied.

3. T. fratria Loew. ♀. (Tab. II, fig. 4.)—Tota lutea, thorace non vittato, alarum rivulis fasciisque luteo-fuscanis, maculam ovatam pellucidam in posteriore cellulæ discoidalis parte includentibus, venâ longitudinali tertiâ setosâ.

Totally luteous yellow; the thorax without stripes; the wings with brownish-yellow rivulets and bands, including an ovate pellucid spot in the posterior part of the discal cell; the third longitudinal vein with bristles. Long. corp. 0.22. Long. al. 0.22.

Rather dark yellow with the scutellum paler and an almost whitish-yellow, not sharply limited stripe, running from the shoulder to the base of the wing; the metanotum at each side with a dot-like black spot. Front of moderate breadth. Antennæ yellow, little longer than half the face, with the bristle apparently bare. Face receding only a little, and slightly excavated below the antennæ. Proboscis short; palpi slightly projecting. Bristles of the thorax black. Hairs of the abdomen short and black. Borer very short, not flattened, concolorous with the abdomen. Legs yellow, tibiæ and tarsi paler than the femora; anterior femora with some black bristles on the underside. The picture of the wings is yellowish-brown, and of the same form as that of the European *Tryp. Heraclei* Linn. The part of it adjacent to the base of the wings reaches from the costal border as far as the dark brownish stigma, having, however, between the transverse humeral vein and the tip of the auxiliary vein a rather large and almost hyaline space; it includes between the third and fourth longitudinal veins an oval transparent spot near the base of the discal cell; it covers the whole of the two posterior basal cells and fills up the two first thirds of the discal cell, running then in a darker color behind the fifth longitudinal vein as far as the tip of this vein, from whence forming a band, it rises above the posterior transverse vein and is connected with the remaining picture in the neighborhood of the small transverse vein. From the latter place a band runs obliquely to the costal border, where it seams the tip of the wing and proceeds as far as the tip of the fourth longitudinal vein; on the third longitudinal vein it emits a parallel branch running to the posterior border. The last portion of the third longitudinal vein is only slightly curved; the posterior transverse vein is slightly oblique; the small transverse vein is perpendicular and more than one and a half of its length from the posterior transverse vein.

Hab. United States. (Osten-Sacken.)

Observation 1.—*Tryp. fratria* resembles exceedingly the yellow variety of *Tryp. Heraclei* Linn., and agrees with it especially in the picture of the wings; but it differs from it by its shorter and proportionately broader wings, by the greater distance between the two transverse veins, and the curve of the last portion of the third longitudinal vein, which is less considerable. I found also the borer of the palest females of *Tryp. Heraclei* always black, whereas its color in *Tryp. fratria* agrees with that of the abdomen.

Observation 2.—I have been of the opinion for some time that this species might be *Tryp. varipennis* Macq., but after a closer examination I find this not admissible, since in Macquart's figure (Dipt. exot. II, 3, Tab. XXXI, f. 1) the band rising from the posterior border and seaming the posterior transverse vein includes a large clear space behind the fifth longitudinal vein, which does not exist in *Tryp. fratria*, and the penultimate band is united with the first near the second longitudinal vein, whereas in *Tryp. fratria* this union takes place at the third longitudinal vein. The statement of the metanotum of *Tryp. varipennis* being black, whereas in my specimen of *Tryp. fratria* it is marked with a black dot on each side only, could not be considered as decisive for separating the two species, since the species of this group are very variable in their colors.

4. T. suspensa Loew. ♂. (Tab. II, fig. 5.)—Tota lutea, thorace non vittato, alarum fasciis fuscanis obliquis, postice divergentibus, venâ longitudinali tertiâ setosâ.

Totally luteous yellow; the thorax not striped; the wings with oblique brownish bands diverging posteriorly; the third longitudinal vein with bristles. Long. corp. 0.21. Long. al. 0.22—0.23.

Dark yellow. Front purer and paler yellow; frontal bristles black, rather short, and not very stout. Antennæ yellowish, almost as long as the face, with the bristle very thin, and having a very delicate and short pubescence. Face a little receding, with proportionately rather deep furrows for the reception of the antennæ. Opening of the mouth rather widened; border of the mouth sharp. Proboscis rather thick, with the suctorial flaps a little prolonged. Palpi broad. Upper side of the thorax without stripes; its pubescence yellow and exceedingly short, bristles black. Scutellum with four black bristles. Metanotum colored alike with the rest of the body. Hairs of the abdomen short and pale, but the bristles at its end black. Legs yellow; anterior femora not very stout, with some black bristles on the under side. Wings not very long; their markings are mostly yellowish-brown, and leave the following hyaline spots: 1. A small triangular one on the costal border immediately behind the tip of the first longitudinal vein, reaching as far as the third longitudinal vein, and joining there a hyaline spot which lies below the stigma between the third and fourth longitudinal veins; 2. An oblique band slightly curved, which rises on the posterior border, near the tip of the last longitudinal vein, and ascends between the transverse veins as high as the third longitudinal vein; 3. A triangular spot of the posterior border, occupying the greater part of the second posterior cell, and reaching with its apex to a little beyond the fourth longitudinal vein; 4. An oblique band which begins at the posterior border, immediately beyond the tip of the fourth longitudinal vein, and ascends as high as the second longitudinal vein, so that the two oblique clear bands almost meet with their anterior ends. The small transverse vein is at the end of the second third of the discal cell, and, like the posterior transverse vein, has a slightly oblique position; the end of the fourth longitudinal vein is distinctly curved forwards; the posterior angle of the anal cell is drawn out into a long point.

Hab. Cuba. (Poey.)

5. T. unicolor Loew. ♂. (Tab. II, fig. 6.)—Flava, thoracis vittis scutelloque multo pallidioribus, fasciis alarum fusco-flavescentibus, postice divergentibus, venâ longitudinali tertiâ setosâ.

Yellow, the stripes of the thorax as well as the scutellum much paler; the brownish-yellow bands of the wings diverging posteriorly; the third longitudinal vein with bristles. Long. corp. 0.26. Long. al. 0.27.

Rather pale yellow. Front a little brighter, of moderate breadth; frontal bristles black, the superior ones rather stout. The yellowish antennæ are nearly as long as the face, bristle very short, beset with a very short and delicate pubescence. Face a little receding, the furrows for the reception of the antennæ proportionately rather deep. Opening of the mouth rather widened, border of the mouth sharp. Proboscis rather thick, with the suctorial flaps slightly prolonged; palpi broad. The upper side of the thorax, above the base of the wings, shows a stripe running from the suture to the posterior border of the thorax, and has in the described specimen rather a whitish color, which seems to have been pale yellow in the living insect; of the same color are the shoulder and the space behind it, the scutellum and a large spot above the poisers; a broad stripe of the same color seems to run from the middle of the posterior border of the thorax to nearly its middle. The dark stripes usual in other species are indicated by rows of blackish spots; they may, however, have become visible only after the drying up of the insect. The short hairs of the thorax are pale yellowish, the bristles black. Scutellum with four black bristles. Metanotum with a black stripe on each side. Abdomen with pale, very short hairs and brownish-black bristles at its end; last segment a little prolonged, with an indistinct brown longitudinal line on each side. Legs yellow; anterior femora with some brown bristles on their under side. Wings rather large; the bands are brownish-yellow with brown edges, entirely brown near the posterior border and the tip of the wing; the clear spaces which they leave are as follows: 1. A very oblique one, interrupted on the third longitudinal vein, with its anterior end forming a triangular spot, placed beyond the tip of the first longitudinal vein, and running through the base of the discal cell as far as the base of the posterior basal cell; 2. A band, having the form of an S, rising on the posterior border, near the tip of the last longitudinal vein, and, after running between the transverse veins, ascending as high as the second longitudinal vein, from whence it turns again to the posterior border, which it joins in the neighborhood of the tip of the fourth longitudinal vein; 3. A large triangular spot of the posterior border, which occupies a great portion of the second posterior cell, and with its tip reaches beyond the fourth longitudinal vein. The stigma is long and rather dark brownish. Transverse veins straight and steep; the fourth longitudinal vein is distinctly curved forwards at its end, as in *Tryp. parallela* Wied.; the posterior angle of the anal cell is drawn out into a large point.

Hab. New Granada. (Schott.)

6. T. electa SAY. ♀. (Tab. II, fig. 7.)—Flava, thoracis vittis scutelloque multo pallidioribus, alis fuscano-fasciatis, venâ longitudinali tertiâ setosâ, tibiis posticis nigro-ciliatis.

Yellow, the stripes of the thorax as well as the scutellum much paler; the wings with straight brownish bands; the third longitudinal vein with bristles and the upper side of the posterior tibiæ ciliated with black bristles. Long. corp. 0.29. Long. al. 0.29.

SYN. *Trypeta electa* SAY, Journ. Acad. Philad. VI, 185, 1.
Tephritis flavonotata MACQUART, Dipt. exot. Suppl. V, 125. Tab. VII, fig. 9.

This very distinct species has in the picture of the wings a great resemblance with the European *Tryp. alternata* Fall. Yellow. Front of middling breadth; frontal bristles black, rather stout. Face slightly receding, with rather deep furrows for the reception of the antennæ. Antennæ yellow, reaching only a little beyond the middle of the face; the bristle bare and very thin. Opening of the mouth large, but not widened; border of the mouth rather sharp, but not projecting. Proboscis small; palpi rather broad. On the upper side of the thorax there is a pale yellow (almost ivory color in the dry specimen) stripe running from the shoulder to the base of the wing, and a second above the base of the wing running from the suture as far as the posterior border of the thorax. Another stripe of the same color runs from the middle of the posterior border to beyond the middle of the thorax, where it is gradually pointed and obliterated; the stripe lying above the base of the wing is interiorly edged with black in the described specimen. Hairs of the thorax short, pale yellowish; bristles black. Scutellum of the color of the pale stripes of the thorax and a black spot on each side of the base of the lateral border; it has four bristles. Pleuræ with a pale yellow longitudinal stripe in its middle and two black little spots above it. Abdomen yellow, with short black hairs and black bristles on the posterior borders of the two last segments; the last segment has a dot-like black spot on each side near the base. Borer short, thick, not flattened at all, a little rounded at its end, of the color of the abdomen, and covered with black hairs. Legs yellowish; anterior femora with black bristles on their under side; the under side of the middle and posterior femora with some black bristles only near the tip, the bristles being shorter on the middle femora; the posterior tibiæ on their whole upper side are densely fringed with rather long black bristles, which afford a very characteristic mark of this species. Wings hyaline, with brown bands. The first of these bands is the least regular, and runs from the transverse humeral vein as far as the end of the anal cell, the posterior angle of which is drawn out into a long point; this anal cell, as well as the basal cell lying before it, is brownish-yellow. The second band, beginning with the short stigma, runs over the small transverse vein, and, after crossing the discal cell, reaches the posterior border, on which it is connected more or less distinctly with the posterior end of the following band. The latter begins on the costal border before the tip of the second longitudinal vein, and after running over the posterior transverse vein in a straight direction, reaches the posterior border of the wing. Its anterior end is perfectly connected with the last band, which seams the wing as far as a little beyond the tip of the fourth longitudinal vein. Between the second and third bands there is still a yellowish-brown line drawn perpendicularly from the costal border to the third longitudinal vein. Transverse veins straight; the small transverse vein is a little beyond the middle of the discal cell.

Hab. Florida. (Osten-Sacken.)

7. T. insecta Loew. ♀. (Tab. II, fig. 8.)—Thorace nigro, capite, abdomine pedibusque luteis, alarum nigrarum incisuris marginalibus guttulisque inter venarum longitudinalium tertiam et quartam tribus vel quatuor pellucidis, venâ longitudinali tertiâ nudâ, setis scutelli duabus.

Thorax black; head, abdomen, and legs luteous; wings black, with limpid incisions on the borders, and three or four limpid drops between the third and fourth longitudinal veins; third longitudinal vein bare; scutellum with two bristles. Long. corp. 0.14. Long. al. 0.14.

Of the group of the European *Tryp. rotundiventris* Fall. Head dirty yellow. Front rather narrow, more so towards its anterior end; frontal bristles brown; the row of rather long bristles at the posterior orbit whitish. Antennæ yellowish, nearly as long as the face. Cheeks descending only a little below the eyes. Thorax and scutellum black, the neighborhood of the coxæ brown. Hairs of the thorax short, pale yellowish, bristles brown. Scutellum with two long brown bristles. Abdomen brownish-yellow; borer not quite so long as the two last segments united, much broader at the base, broad and abrupt at the end, flattened, concolorous with the abdomen. Legs yellow. Wings black, with pellucid spots. On the costal border there is a small spot before the transverse humeral vein; a similar spot projecting a little from the first longitudinal vein lies beyond the transverse humeral vein, and a smaller one between it and the tip of the auxiliary vein; it is followed by two triangular spots of equal size, the first of which is immediately beyond the tip of the first longitudinal vein, and touches the third longitudinal vein at its junction with the small transverse vein. On the posterior border of the wing there are six clear excisions, the two first of which coalesce with the grayish hyaline axillary angle of the wing; the third reaches the fifth longitudinal vein; the fourth lying behind the tip of the fifth longitudinal vein is more cloudy than the others, and goes a little beyond the fifth longitudinal vein; the fifth accompanies the steep posterior transverse vein at its hind side, and reaches as far as the fourth longitudinal vein; the sixth has a more inclined position and a sharper tip, with which it reaches the fifth longitudinal vein. In the middle of the broad first posterior cell there is a considerable hyaline drop; a much smaller drop is seen at the anterior side of the fourth longitudinal vein, in the middle of its penultimate portion, and one or two hardly visible drops at the antepenultimate portion of this vein. The second longitudinal vein is slightly undulating, and diverges more than usually towards the end from the third longitudinal vein; the posterior angle of the anal cell is drawn out into a prolonged point.

Hab. Cuba. (Poey.)

8. T. palposa Loew. ♂. (Tab. II, fig. 9.)—Flava, abdomine punctorum nigrorum seriebus quatuor picto, alis hyalinis luteo-fasciatis, venâ longitudinali tertiâ nudâ.

Yellow, abdomen with four rows of black dots, wings hyaline with luteous bands and the third longitudinal vein bare. Long. corp. 0.26—0.27. Long. al. 0.26.

It is nearly allied to *Tryp. arctii* Deg., *lappæ Cederli*, etc. Yellow; front brighter yellow, rather broad; frontal bristles blackish, the small bristles of the posterior orbit whitish. Antennæ yellow, descending a little beyond the middle of the face, their third joint rather broad; the bristle of the antennæ apparently bare, with the base slightly incrassated. Face a little receding, excavated in the middle, so that the border of the mouth is projecting; the furrows for the reception of the antennæ rather flat. Opening of the mouth very wide; proboscis thick and short; palpi broad, rather large, with some small black bristles. Thorax with a large glossy black spot in the middle of its anterior side; its upper side blackish, with the exception of the lateral and posterior borders, and of a large triangular spot which rises from the posterior border; hairs whitish-yellow; bristles blackish; two of the latter, inserted before the scutellum, are placed on larger black dots, and two before them on smaller dots. Scutellum with four bristles, yellow, only a little blackened at the base of the lateral border. Metanotum black. Pleuræ with some brown spots, and above the posterior coxæ with a small black spot. The third, fourth, and fifth segments of the abdomen have each at its anterior border four small black spots, the intermediate ones being more approximated; the fifth segment is much prolonged, and has, moreover, a black spot in each posterior corner. The rather coarse hairs of the abdomen are yellowish on the first segments and the anterior part of the middle ones, the remaining ones are black. Legs yellow; anterior femora with black bristles on the under side. The color of the picture of the wings is brownish-yellow in my specimen, which is apparently a little faded; it extends on the costal border from the base to the tip of the first longitudinal vein, and, on the first portion of this extent, reaches as far as the fourth longitudinal vein, and on the second half as far as the third only. From the tip of the first longitudinal vein a band runs over the small transverse vein; a second band runs from the costal border over the posterior transverse vein; these two bands become more obsolete towards the posterior border, and almost coalesce in its neighborhood. The first of them is also connected with a stripe which edges the fifth longitudinal vein. The edge of the tip of the wing is perfectly connected with the second band, and reaches a little beyond the tip of the fourth longitudinal vein. The anal cell is brownish-yellow. Transverse veins steep; the small transverse vein a little before the last third of the discal cell.

Hab. Northern Wisconsin. (Kennicott.)

9. T. suavis Loew. ♂. (Tab. II, fig. 10.)—Pallide flava, unicolor, alarum hyalinarum liturâ basali fasciisque tribus nigricantibus in formam literæ S confluentibus, venâ longitudinali tertiâ nudâ.

Pale yellow, unicolorous; wings hyaline, with a blackish basal stripe and three blackish bands confluent in an S-shaped mark; third longitudinal vein naked. Long. corp. 0.20. Long. al. 0.21.

Of this species, very conspicuous by the peculiar picture of its wings, I unfortunately possess only one individual, much injured in carrying. It is everywhere pale yellow, and its thorax and scutellum have no trace of a paler picture. Hairs very short, whitish-yellow on the upper side of the thorax, rather blackish on the pleuræ; bristles all black. Scutellum with four bristles. Wings hyaline; the veins at the base of the wing yellowish; a blackish not very striking stripe runs from the tip of the basal humeral vein to the posterior angle of the anal cell, which is drawn out into a point. The remainder of the picture of the wings consists of three very broad, rather blackish bands; the first runs from the black stigma, widening gradually perpendicularly to near the posterior border, where it is connected with the second, which rises over the posterior transverse vein as far as the costal border, and connects there completely with the third band which seams the tip of the wing. The connection of the first and second bands is somewhat interrupted by a clear incision reaching from the posterior border a little into the discal cell. Above the end of this incision there is another clear spot. Stigma small; none of the longitudinal veins unusually curved; the small transverse vein is somewhat before the middle of the discal cell and below the very tip of the first longitudinal vein; the posterior transverse vein is only a little arcuated; the two transverse veins are steep, not perfectly perpendicular.

Hab. Middle States. (Osten-Sacken.)

10. T. cingulata Loew. ♀. (Tab. II, fig. 11.)—Nigra, capite pedibusque luteis, thoracis margine laterali scutelloque flavis, margine segmentorum abdominalium singulorum postico albido, alarum hyalinarum fasciis quatuor punctoque apicali nigris.

Black with the head and legs luteous, the lateral borders of the thorax and the scutellum yellow, the posterior borders of the abdominal segments whitish; wings hyaline with four bands and an apical dot black. Long. corp. 0.22. Long. al. 0.20.

It belongs to the relationship of the European *Tryp. cerasi* Linn. (= *signata* Meig.), a group which must not be confounded with that of *Tryp. solstitialis* Linn., closely alike in its coloring. Black. Head rather dark yellow, front brighter yellow, of middle breadth, with rather long black bristles. Antennæ reaching to a little beyond the middle of the face, last joint rather narrow, and with the anterior corner rather sharp. Face straight, descending, with moderately deep furrows for the reception of the antennæ; border of the mouth by no means prominent. Proboscis and palpi short. Thorax black; the humeral callosity and a longitudinal stripe running from the latter to the base of the wing are bright yellow. The bristles of the thorax and the four bristles of the yellow scutellum black; the base and greatest part of the lateral border of the latter black. Metanotum and abdomen glossy black, the latter with broad whitish (perhaps more yellow in life) edges of the posterior borders and black hairs. Borer exceedingly short. Legs dark yellow; femora a little brownish at the base; the anterior femora with small brown bristles on the under side; the two posterior tibiæ with short black bristles on the upper side. Wings somewhat broad, especially in the neighborhood of the base, with four black bands and a little black spot at the tip. The first band runs from the basal humeral vein to the posterior angle of the anal cell, which is drawn out into a point. The second is broadest, running from the black stigma beyond the fifth longitudinal vein, and ending abruptly in the middle between this vein and the border of the wing. The third, which runs over the posterior transverse vein, is also rather perpendicular, and completely reaches the posterior border of the wing. The fourth band is perfectly united with the third on the costal border, and reaches the posterior border behind the tip of the fourth longitudinal vein, so that it has a rather oblique position. The small apical spot includes the tip of the third longitudinal vein. Both transverse veins are straight and perpendicular.

Hab. Middle States. (Osten-Sacken.)

11. T. polita Loew. ♀. (Tab. II, fig. 12.)—Atra, nitida, capite pedibusque flavis, scutello tumido, alarum albido-hyalinarum maculâ basali atrâ fasciisque tribus latissimis fusco-nigris.

Deep black, shining; head and legs yellow, scutellum inflated; wings whitish-hyaline with a basal black spot and three very broad brownish-black bands. Long. corp. 0.25. Long. al. 0.17—0.18.

Belongs to the relationship of the European *Tryp. Wiedemanni* Meig., the species of which chiefly agree in their inflated scutellum and short wings, while they differ among each other much in the structure of their face. Front bright yellow, beautifully yellowish-brown above, considerably broad; frontal bristles black. Antennæ yellowish, descending to the middle of the face, and having a black bristle, the pubescence of which is exceedingly short and hardly visible. Face whitish-yellow, a little receding, its middle rather flat; border of the mouth not prominent at all; opening of the mouth rather small; proboscis and palpi short. The inferior part of the occiput is whitish-yellow, the superior blackish. Thorax rather convex, altogether glossy black, bare, but the broad lateral stripes are bordered everywhere with a row of yellowish short hairs, and the broad middle stripe is divided by a longitudinal row of such hairs. Bristles black. Scutellum shining black, very convex, as if inflated. Metanotum black, with an indistinct whitish reflection. Pleuræ shining black, with a few stiff yellowish hairs and some black bristles. Abdomen black; the hairs rather stiff, whitish on the posterior part of the first segment; on the second and third segments they are black, except the hindmost ones of the posterior border, which are whitish; on the two last segments they all are whitish. Borer shining black, flattened, pointed, abundantly as long as the abdomen, with very short black hairs. Legs dirty fuscous-yellow; femora not much incrassated, the anterior ones with a few black hairs on the under side. Wings short and rather broad, having the transverse veins very approximated and perfectly perpendicular; they are rather whitish, with very broad brownish-black bands. Their innermost base is yellowish, then follows a large triangular rather deep black spot, which reaches from the costal border as far as the axillary incision of the wing, and only little exceeds the basal cells. The two first black or brownish-black bands are united on the costal border, so as to form an inverted V; the second of them runs from the stigma over the transverse veins, and has a more inclined position than the first; the isolated third band has a position similar to that of the second, and seams the tip of the wing some distance beyond the tip of the fourth longitudinal vein, without coalescing anywhere completely with the border of the wing.

Hab. Mississippi. (Schaum.) Washington. (Osten-Sacken.)

Observation.—The Brazilian *Urophora connexa* Macq. (Dipt. exot. Suppl. III, 64, Tab. VII, fig. 10) has the picture of the wings rather similar to those of *Tryp. polita.* But being greenish-black, and having the last band of the wings completely connected with the preceding, and running straight on with the costal border, but not reaching the tip of the third longitudinal vein, it is evidently different from *Tryp. polita.*

12. T. sparsa Wied. ♂ and ♀. (Tab. II, fig. 13.)—Fusca, alis latissimis, rotundatis, nigris, albido-guttulatis et margine apicali albo ornatis.

Brown; wings very broad and rounded, black with small drops, and the apical border whitish. Long. corp. 0.27—0.30. Long. al. 0.26.

Syn. *Trypeta sparsa* Wiedemann, Auss. Zweifl. II, 492.
Trypeta caliptera Say, Journ. Acad. Phil. VI, 187, 3.
Platystoma latipennis Macquart, Dipt. exot. II, 3, 200. Tab. XXVI, fig. 8.
Acinia novæboracensis Fitch, First Rep. etc. 67.

Of a brownish-red, sometimes more brown color. Front broad, brownish-yellow, frontal bristles black; the bristles of the posterior orbit whitish-yellow. Antennæ descending below the middle of the face, their bristles with a short, but distinct pubescence. Face excavated in the middle, and marked with two large deep black dots; another small deep black spot is between the antenna and the anterior angle of the eye. Eyes with three very distinct transverse bands. Palpi dark brown, usually blackish at the tip; suctorial flaps a little prolonged. On the upper side of the thorax there are usually two or three darker longitudinal lines, and a broad dark-brown edge of the lateral border. The short hairs of the thorax and scutellum are whitish-yellow, the bristles of both black. Of the four bristles placed in the middle of the thorax, the two first are near the transverse suture. Pleuræ above with whitish-yellow, below with black hairs, the bristles mixed among them black. The abdomen usually bears two rows of large blackish spots, of a rather quadrangular form, leaving between them a brown middle streak, and not completely reaching the posterior borders of the single segments; sometimes they extend so much, that only the posterior borders of the segments retain a paler color, whereas the whole surface is blackish. Borer blackish-brown, sometimes with a red spot on each side, a little pointed, rather flat; its first segment is a little longer than the two last segments of the abdomen taken together. The hairs of the abdomen are mostly black, a few light ones being among them. Legs paler reddish-brown, the anterior femora often partly blackened, with some black bristles on the upper and under sides. Wings exceedingly broad, with the uninterrupted whitish seam of the tip forming a narrow crescent; on their surface there are numerous clear drops rather equally scattered, but totally wanting in that part of the black color which adjoins the white crescent, as well as before the first longitudinal vein. At the tip of the first longitudinal vein, a small, clear, but little distinct stripe is seen. The small transverse vein straight and perpendicular, the posterior one a little curved and steep.

Hab. Northern Wisconsin. (Kennicott.)

Observation.—I possess a specimen, which is distinguished by its much paler, almost dull testaceous color, its less enlarged wings and the somewhat larger size of the clear drops, but as to the other characters agrees so perfectly with the ordinary specimens of *Tryp. sparsa* Wied. that I do not venture to declare it a different species.

13. T. rotundipennis Loew. ♂. (Tab. II, fig. 14.)—Fusca, alis latissimis, rotundatis, nigris, albido-guttulatis et in marginibus anteriore et apicali maculas minutas albidas gerentibus.

Brown; wings broad and rounded, black, with very small whitish drops in the middle, and small whitish spots on the costal and apical borders. Long. corp. 0.28. Long. al. 0.26.

Of this species I have only one specimen, which is unfortunately so much injured in the journey as to prevent me from giving a full description. However, as it is very nearly related to *Tryp. sparsa* Wied., it will be recognized even from my incomplete description. The color is the same; the wings are still shorter and broader, especially the cell which lies before the first longitudinal vein is much broader; the third longitudinal vein is much more undulated, and the last portion of the fourth longitudinal vein is shorter than the posterior transverse vein, whereas it is a little longer in *Tryp. sparsa.* None of the drops on the wings of *Tryp. sparsa* is of a more considerable size than the others, whereas *Tryp. rotundipennis* has such a drop between the third and fourth longitudinal veins, opposite to the base of the discal cell; the drops are in general equally distributed in *Tryp. sparsa,* they are much more irregularly grouped in *Tryp. rotundipennis;* the size and number of the drops diminishes a little from the base towards the apex in *Tryp. sparsa;* their number only, not their size diminishes in *Tryp. rotundipennis;* their size increasing towards the posterior border in *Tryp. sparsa,* this is not the case in *Tryp. rotundipennis.* In *Tryp. sparsa* the white crescent seaming the apex of the wing is entire, in *Tryp. rotundipennis* it is dissolved into several spots. Finally, the anterior border of the wings of *Tryp. rotundipennis* bears a row of small clear spots, whereas *Tryp. sparsa* has no trace of them.

Hab. Middle States. (Osten-Sacken.)

14. T. clathrata Loew. ♀. (Tab. II, fig. 15.)—Cana, capite pedibusque flavis, femoribus liturâ nigrâ signatis, alis rare reticulatis, stigmate atro albo-guttato, peristomio modice producto, proboscide breviter geniculatâ.

Whitish-gray; head and legs yellow; wings with a diffuse reticulation, and the black stigma including a limpid drop; oral border moderately prolonged, proboscis shortly geniculated. Long. corp. 0.12 Long. al. 0.13.

Head yellowish; the lateral borders of the front, the face, and the much descending cheeks whitish. The bristles on the front black, on the sides of the vertex and posterior orbit white. The face with rather deep subantennal furrows prolonged to the oral border, which is not very projecting. Antennæ fulvous, rather short; the anterior corner of the third joint a little acute; the second joint with very short black hairs; antennal bristle black and moderately long, with the pubescence scarcely visible. Thorax and scutellum whitish gray, with short pubescence and black bristles. The scutellum bears four bristles, the two apical ones being much shorter and less stout than the lateral ones; its tip is sometimes yellow. The whitish-gray abdomen has two rows of very distinct black spots. The hair and even the bristles on the hind border of the last segment are white. The flat ovipositor is glossy-black, as long as the two last segments of the abdomen and moderately tapering towards the tip. The legs and anterior coxæ are dark yellow, with white hairs; the thighs with a blackish stripe somewhat covered with whitish dust. Wings not very narrow, hyaline, with the base very slightly yellowish; their black reticulation is not very dense and not very delicate, extending towards the base of the wing as far as the base of the discal cell, and dissolving towards the axillary angle into some scattered spots; stigma black, with a whitish dot; the middle and posterior transverse veins rather approximate.

Hab. Middle States. (Osten-Sacken.)

Observation.—The proboscis of this species being short with the suctorial flaps but moderately prolonged, attention is to be paid to its true place, which is among the species with a geniculated proboscis.

15. T. humilis Loew. ♂. (Tab. II, fig. 17.)—Cinerea, capite pedibusque flavis, femoribus nigris, alis rare reticulatis, stigmate atro non guttato, peristomio valde producto, proboscide geniculata.

Cinereous; head and legs yellow, with the femora black; reticulation of the wings diffuse, and the black stigma including no limpid drop; oral border much prolonged; proboscis geniculated. Long. corp. 0.09. Long. al. 0.1.

Among the kindred of the European *Tryp. elongatula* Loew, but in its habit more resembling *Tryp. absinthii* Fabr. Head yellow, considerably prolonged anteriorly. Front yellow, distinctly margined with white at the orbit; frontal bristles black. Face excavated with the anterior border of the mouth much prolonged. Antennæ bright yellow, proportionately large and broad, reaching as far as the prolonged border of the mouth; the anterior corner of the third joint a little pointed; the second joint with very short black hairs; antennal bristles very long, black, with a very short and hardly visible pubescence. Thorax and scutellum yellowish ashy-gray with short whitish-yellow hairs and black bristles. In the middle of the thorax there are four bristles, the two foremost being very near the suture. Scutellum with only two long bristles rather distant from the tip and not close by its lateral border. Metanotum black with grayish pollen. Abdomen ashy-gray with two rows of rather large blackish spots. Its hairs are whitish yellow; some black bristles on the posterior border of the prolonged last segment. Tip of the first joint and the second joint of the coxæ rather dark yellow. Femora brownish-black, with dark yellow tips. Tibiæ and tarsi dark yellow. Wings proportionately rather long and narrow. Their reticulation is black, rather diffuse and coarse; the base of the wing as far as the base of the discal cell has no reticulation. The black stigma includes no clear dot. Moreover, the reticulation of the wings is somewhat variable. Transverse veins rather near each other.

Hab. Cuba. (Poey.)

Observation.—I have a female likewise captured in Cuba, which, I think, belongs to the present species. It resembles the male in everything but the femora, which are darkened to a much smaller extent, and not with black, but brown. The borer is black, flat, about as long as the two last segments of the abdomen taken together.

16. T. solidaginis Fitch. ♂ and ♀. (Tab. II, fig. 16.)—Rufo ferruginea, capite pedibusque flavioribus, fronte latissimâ, setis scutelli valde convexi duabus, alis fusco-reticulatis, incisuris una anteriore, duabus posterioribus apiceque hyalinis, parcissime fusco-maculatis.

Brownish-ferruginous with the head and legs more yellow; front very broad; scutellum very convex with two bristles. Wings reticulated with fuscous having one limpid space at the costa and two at the posterior border scarcely dotted with fuscous. Long. corp. 0.26. Long. al. 0.26.

Syn. *Acinia solidaginis* Fitch. First Rep. 66.

This remarkable species, which, according to Mr. Fitch, produces round galls on the stems of Solidago, has no near relations among the European *Trypetæ.* In consequence of the extraordinary breadth of its front, the breadth and convexity of its thorax, and the inflation of its large scutellum, it has the appearance of a large *Lipara.* It is brownish ferruginous. Head more yellow, face almost whitish. The bristles of the unusually broad front are black, smaller and weaker than in most other species, so that one might easily be tempted to refer the species to the *Ortalidæ*, if the structure of the auxiliary vein did not prove that it belongs here. Face deepened in the middle, prominent again underneath. Antennæ yellow, short and broad, the third joint having a rather distinct, but not sharp anterior corner; bristle of the antennæ with a hardly visible pubescence. Opening of the mouth very wide; palpi and proboscis short. Thorax very convex and broad; on its upper side in the middle usually a double stripe ending abruptly behind, the posterior part of the lateral stripe and a longitudinal streak above the base of each wing, black. The short hairs of the thorax are whitish yellow, its delicate bristles black. Scutellum very convex, quite blunt; the posterior pair of bristles which in most species exists at the tip, is here always wanting so that there is only one bristle on each side near the lateral border; a second weaker bristle is seldom inserted immediately beside it. Abdomen broad, especially in the male, which has also the last segment a little prolonged and rounded. Borer of the female a little longer than the two last segments taken together, moderately broad, and quite flat, red, blackened at its extremity. Legs rather dirty yellow, femora more brownish. Wings rather large and of more equal breadth than usual. The reticulation of the wings is almost umber brown with small pale brownish drops and hyaline marginal spots very rarely dotted with brown; the first of these spots is triangular and extends from the posterior border to inside of the discal cells; the second is much smaller, but also of triangular form, and reaches with its tip to the fourth longitudinal vein; the third forms a margin along the apex of the wing, reaching from the tip of the second longitudinal vein to the tip of the fourth longitudinal vein; the last spot forms a small oblique triangle extending from the costal border to the third longitudinal vein, and lying immediately beyond the tip of the first longitudinal vein. A costal spine does not exist. The first longitudinal vein is more hairy than bristly; the transverse veins are perpendicular; the small transverse vein is almost at the end of the second third of the discal cell; the hind angle of the anal cell has only a short point.

Hab. New York. (Dr. Fitch.) Washington. (Osten-Sacken.)

Observation.—This species has so many peculiarities, that it might easily be considered as the type of a new genus. The broad front, broad and convex thorax, a scutellum having only two bristles, the first longitudinal vein alone being hairy, and the absence of the costal spine, would be its most essential characters.

17. T. seriata Loew. ♂. (Tab. II, fig. 18.)—Flava, alis concoloribus, per maculas minutas nigricantes, seriatim dispositas, reticulatis et nigrolimbatis.

Yellow; wings of the same color, margined with black and reticulated with small blackish spots, arranged in longitudinal rows. Long. corp. 0.24. Long. al. 0.26—0.27.

Rather bright yellow, quite unicolorous, the hairs and bristles also yellow, the latter, however, appearing brown when seen in a certain light. Front rather broad. Face descending rather straight, strongly excavated, however, in its middle. Proboscis short; palpi rather broad and short. Scutellum with four bristles. The wings are proportionately long, and of very equal breadth. Their yellow ground color is rather obsolete in the middle line of the cells and on the posterior border. The reticulation of the greater part of the wings is effected by blackish angular specks arranged in two rows between each two veins; only the axillary angle has a connected blackish-gray reticulation formed by clear drops. Immediately before the tip of the auxiliary vein begins the black margin of the wing, which encompasses the apex and proceeds to the axillary angle, growing gradually paler in its progress, and meeting several interruptions; the most remarkable of these interruptions are a rather hyaline spot immediately beyond the tip of the first longitudinal vein, and a row of similar round spots along the posterior border, the two first of which in the second posterior cell, the following more frequent towards the axillary angle. The third longitudinal vein bears very distinct bristles from its base as far as the small transverse vein. The small transverse vein is nearly at the end of the second third of the discal cell. The posterior transverse vein is not quite perpendicular. The hind angle of the anal cell is prolonged into a moderately long point.

Hab. Middle States. (Osten-Sacken.)

18. T. solaris Loew. ♀. (Tab. II, fig. 19.)—Cana, capite pedibusque luteis, puncto humerali et altero ante alarum basim flavis, alis albohyalinis, macula magnâ subapicali nigrâ, biguttatâ et radios octo emittente, ornatis.

Whitish gray; head and legs luteous, a dot on the shoulder and another before the base of the wings yellow; wings whitish hyaline, with a subapical black spot including two limpid drops and emitting eight rays to the border of the wing. Long. corp. 0.17. Long. al. 0.16—0.17.

One of the group of the European *T. stellata* Fuessl., *cometa* Loew, *gnaphalii* Loew, etc., and very much resembling these species. Head yellow; front rather broad; frontal bristles blackish; the bristles of the posterior orbit whitish. Front a little prominent, face slightly receding and a little excavated in the middle, so that the borer of the mouth projects again. Antennæ rather broad, reaching down to beyond the middle of the face, with the bristle having a very short, hardly visible pubescence. Opening of the mouth very large; proboscis and palpi short. Thorax whitish-gray with a pale yellow dot at the shoulder angle, and a second immediately before the base of the wing. The short hairs of the upper side of the thorax are whitish, the bristles blackish; of the four bristles in its middle, the first pair is very near the suture. Scutellum with only two long bristles. Abdomen whitish-gray at the base, more ashy gray towards the end, with short, whitish-yellow hairs, the hind border of the last segment having black bristles. Borer shining black, flat, tapering towards the end, nearly as long as the three last abdominal segments taken together, with black hairs. Legs dark-yellow. Wings whitish hyaline before the tips, with a large radiating spot, incumbent to the costal border; this black spot includes two clear drops, one of which on the costal border immediately behind the tip of the second longitudinal vein, the second between the two transverse veins at the anterior side of the fourth longitudinal vein. The first ray runs from the anterior end of the small transverse vein to the stigma, in which it vanishes; the second is shorter and reaches the costal border between the tip of the first longitudinal vein and the black spot itself; the third and fourth rays run to the tip of the wing, reaching it at the tips of the third and fourth longitudinal veins; the fifth and sixth cross the second posterior cell; the seventh includes the posterior transverse vein and reaches the posterior border of the wing, whereas the eighth reaches only to the fifth longitudinal vein. The small transverse vein lies outside of the black spot; yet in its whole neighborhood the surface of the wing is brownish, and a small gray spot lies immediately before it. Transverse veins approximated, perpendicular; the small transverse vein rather far beyond the tip of the first longitudinal vein.

Hab. Georgia. (Osten-Sacken.)

19. T. aequalis Loew. ♂. (Tab. II, fig. 20.)—Flava, unicolor, alis æqualiter fusco-reticulatis, guttis hyalinis plerisque majoribus.

Yellow, unicolored, with the brown reticulation of the wings very uniform and most of the limpid drops of considerable size. Long. corp. 0.22—0.23. Long. al. 0.23.

Totally yellow, also the hairs and bristles, only the anterior frontal bristles and those at the hind border of the last abdominal segment being brownish. Front rather broad and short. Face descending nearly straight, excavated a little above; the border of the mouth not projecting. Antennæ yellow, slightly descending beyond the middle of the face, third joint rather narrow, bristle with an extremely short, hardly visible pubescence. Opening of the mouth small, a little prolonged anteriorly, so that its form is almost triangular. Proboscis and palpi of middle size. The first pair of the bristles inserted in the middle of the thorax, is very near the transverse suture. Scutellum with four bristles. Legs a little more slender than usual, tarsi longer; anterior femora rather thick, with remarkable, pale yellowish bristles on the under side. Wings of rather equal breadth, hyaline with a brownish reticulation of unusual uniformity. Most of the drops forming it are rather large; those on the costal border are more oblong, and separated by short blackish-brown rays; the color of the reticulation near the border of the wings is considerably darker than in the middle of the wing. The small transverse vein lies far beyond the tip of the first longitudinal vein, and a little beyond the third fourth of the discal cell; the posterior transverse vein is a little oblique.

Hab. Illinois. (Kennicott.)

20. T. festiva Loew. ♂ and ♀. (Tab. II, fig. 21.)—Flava, unicolor, terebrâ fœminæ valde elongatâ fuscâ, alis hyalinis inæqualiter reticulatis, in apice radiatis, picturâ in basi et disco flavescente, prope marginem anticum et in triente alarum apicali nigro-fuscâ.

Yellow, unicolored; the borer of the female brown and very prolonged; reticulation of the wings unequal, radiated in the apex, yellowish at the base and in the disk, dark fuscous near the borders and on the apical third of the wing. Long. corp. ♂ 0.17—0.18, ♀ 0.20—0.23. Long. al. 0.22.

Rather bright yellow; hairs and bristles almost all of the same color, only the anterior frontal bristles as well as the bristles of the hind border of the last abdominal segment brownish, and the short hairs in the middle of the abdomen mostly blackish. Front of middle breadth. Face rather narrow, descending almost perpendicularly, slightly excavated; border of the mouth not prominent. Antennæ yellow, reaching a little beyond the middle of the face; the third joint not broad, with the bristle having a very short, hardly visible pubescence. Opening of the mouth rather large, raised a little anteriorly. Proboscis and palpi of middle size. Cheeks descending a little beneath the eyes. The foremost of the two pairs of bristles inserted in the middle of the thorax is close by the transverse suture. Scutellum with four bristles. Abdomen sometimes brownish-tawny, leaving the hind borders of the segments paler; this color seems to result from desiccation, since in some individuals the abdomen is uniformly yellow. The borer is conical, narrow, not flattened, nearly as long as the four last abdominal segments taken together, blackish-brown in well-colored individuals, red with black extremity in more recent individuals. Wings hyaline, the reticulation being blackish-brown, paler and yellowish-brown near the base and in the middle of the wing. In the middle of the wing there are only a few drops of considerable size, four of which are remarkable for their regular position and a more whitish appearance; one of these drops is above, the second before, the third behind the small transverse vein, the fourth in the discal cell nearly before the posterior transverse vein. The reticulation sends the following blackish-brown rays to the border of the wing: 1. A narrow one to the middle of the exterior costal cell; 2. A narrow one to the tip of the auxiliary vein; 3. A broader one, the end of which is sometimes separated as a spot, to the middle of the stigma, and another being sometimes confluent with it, to the end of the first longitudinal vein; 4. A narrow one rising from the first of the four drops enumerated above; 5. A very broad one reaching the border of the wing between the foregoing ray and the tip of the second longitudinal vein; 6. A ray running to the tip of the second longitudinal vein; 7. A ray ending between the tips of the second and third longitudinal veins; 8 and 9. Two rays running to the tips of the third and fourth longitudinal veins; 10 and 11. Two rays crossing the second posterior cell, the second of which joins the reticulation, which is formed by a few large drops, and fills the hind part of the wing as far as the axillary incision. Small transverse vein a little inclined exteriorly, placed at the end of the second third of the discal cell; posterior transverse vein steep.

Hab. Pennsylvania. (Osten-Sacken.)

21. T. bella Loew. ♂ and ♀. (Tab. II, fig. 23.)—Flavo-cinerea, capite, pedibus abdomineque luteis, hoc apicem versus nigricante, alis nigro-reticulatis, in apice radiatis, guttis disci paucissimis, pone venulam transversam nullâ.

Yellowish gray; head, legs, and abdomen yellow, the latter blackened towards the end; reticulation of the wings radiating at the apex, black, with very few drops in the middle; no drops at all beyond the small transverse vein. Long. corp. ♂ 0.12—0.13. ♀ 0.13—0.15. Long. al. 0.11—0.12.

Head rather pale yellow, front and antennæ sometimes darker, the former being of middle breadth, slightly narrowed anteriorly. Face rather narrow, nearly perpendicular, slightly excavated, the anterior border of the mouth again projecting a little. Antennæ yellow, reaching to nearly the border of the mouth; the third joint somewhat broad, with the bristle having an extremely short, hardly visible pubescence. Opening of the mouth very large, a little raised anteriorly. Proboscis and palpi rather large. Cheeks descending a little beneath the eyes. Thorax yellowish-gray. Scutellum of the same color, pale yellow at the tip, to a larger or smaller extent, with four bristles. Metanotum black, but dark gray from its being dusted with paler. Abdomen dark yellow, black towards the extremity; well preserved specimens show distinctly that this black color is produced by each of the last segments having two large blackish spots, which leave an intermediate streak, and the posterior border yellow; in most specimens these black spots are not distinct, or only the hind borders of the last segments are paler. Borer black, rather broad, narrower towards the end, flat, little longer than the two last segments taken together. Legs yellow. Hairs of the whole body and all bristles yellowish, only the very short hairs of the borer being black. The reticulation of the wings is blackish-brown, leaving only the innermost base of the wing free, with the exception that it has some blackish spots. In the middle of the wing there are so few clear drops, that the black color is not only continuous, but also occupies most part of the surface; in the sub-marginal cell there is only one clear drop, near the hind side of the second longitudinal vein and a little beyond the small transverse vein. Between the third and fourth longitudinal veins there is only a single clear drop on the anterior side of the antepenultimate portion of the fourth longitudinal vein. The want of that drop which is usually inside of the said interval beyond the small transverse vein, is very characteristic of this species, as is also the considerable depth and blacker color of the convexity existing there. In the discal cell there is always one drop on the hind side of the penultimate portion of the fourth longitudinal vein, and one or more such drops on the anterior side of the fifth longitudinal vein. The third posterior cell and the axillary angle of the wing have a reticulation produced by a few, proportionately large, hyaline drops. The reticulation of the wings emits ten rays to the borders, corresponding to those of *Tryp. festiva*, except that the first ray of the latter species is wanting totally in *Tryp. bella*, and the two rays described under No. 3 in *Tryp. festiva* are reunited into one single ray in *Tryp. bella*; the last ray in *Tryp. bella* is usually connected again with the remaining reticulation; in this case the second posterior cell also contains a separated clear drop. Posterior transverse vein not quite perpendicular.

Hab. Washington. (Osten-Sacken). New York. (Dr. Fitch.)

Observation.—Among the specimens forwarded by Baron Osten-Sacken there was one bearing the name of *Acinia bella* Fitch. I have therefore adopted this name for this fine new species.

Note.—Very common on *Ambrosia artemisiæfolia.*—O. S.

22. T. latifrons Loew. ♀. (Tab. II, fig. 22.)—Obscura, capite, tibiis tarsisque flavescentibus, fronte latissimâ, scutello convexo biseto, alis latiusculis, parce et satis æqualiter nigro-fusco reticulatis et in apice breviter radiatis, bullâ cellulæ posterioris primæ permagnâ.

Obscure; head, tibiæ, and tarsi yellowish; front very broad; scutellum very convex, with two bristles; wings rather broad, with the blackish reticulation rather uniform, but little crowded, and emitting short rays at the tip; the first posterior cell with a very large convexity. Long. corp. 0.30. Long. al. 0.27.

The single specimen of this species which I have seen being oily, I can say nothing certain about the color of its body. On the upper side of the thorax there is a broad, simple intermediate stripe, and on each side a bipartite lateral one, moreover a darker streak above the base of the wing. Metanotum black, shining. The last abdominal segment shining blackish-brown. Head yellowish; front exceedingly broad; frontal bristles black; on the lateral border there are only two, bent anteriorly. Face perpendicular, deeply excavated in the middle, gradually projecting again below. Antennæ yellowish, short, very broad, the third joint having a distinct, though not sharp anterior corner, the bristle with an exceedingly short pubescence. Cheeks rather broad. Opening of the mouth large; proboscis short; palpi very broad and projecting much over the border of the mouth. The short hairs of the thorax are whitish-yellow, the bristles black; the anterior one of the two pairs of bristles inserted in the middle of the thorax is very near to the suture. Scutellum very convex, with only two bristles. Borer shining black, a little longer than the three last abdominal segments taken together, conical, not flattened at all, a little inflated at the basal half. Femora almost black at the base, further on brown, yellow at the tip; tarsi and tibiæ yellow, the latter brownish-yellow towards the base. Wings rather broad, covered entirely with a black reticulation; the drops in it are more numerous, larger, and hyaline on the borders of the wings, much more scarce, smaller, and mostly yellowish-brown in their middle. There are eight short, blackish-brown rays on the portion of the costal border lying beyond the tip of the first longitudinal vein and at the tip of the wing. Between the third and fourth longitudinal veins there is only a single hyaline drop before the small transverse vein. Transverse veins perpendicular; the convexity of the first posterior cell very large and deep, rendering thereby its surroundings rather uneven.

Hab. Carolina. (Zimmermann.)

23. T. melanogastra Loew. ♂ and ♀. (Tab. II, fig. 23.)—Flavo-cinerea, abdomine nigro, capite pedibusque flavis, alis hyalinis, nigro-reticulatis et in apice breviter radiatis, guttis disci paucissimis, bullâ cellulæ posterioris primæ minimâ, scutello biseto.

Yellowish-gray; abdomen black, head and legs yellow; wings hyaline with a black reticulation, short apical rays, few discal limpid drops, and a small convexity in the first posterior cell; scutellum with two bristles. Long. corp. ♂ 0.09—♀ 0.12. Long. al. 0.12.

Yellowish-gray, with a black abdomen. Head yellow; front bright yellow, of middle breadth; frontal bristles brown, but appearing yellow in a reflected light. Face rather narrow, descending straight, excavated in the middle, gradually projecting again beneath. Antennæ yellowish, rather broad, with the third joint having a distinct anterior corner, and the bristle with a short, hardly visible pubescence. Eyes almost round. Cheeks narrow. Opening of the mouth large; proboscis and palpi short. The short hairs of the thorax pale yellowish, the bristles brownish; the first of the two pairs of bristles in the middle of the thorax very near the transverse suture. Scutellum of the color of the thorax, but usually yellow at the tip, with two bristles. Abdomen and metanotum black, rather glossy; the short and scattered hairs of the former pale yellowish. Borer flat, shining black, nearly as long as the abdomen. Legs yellow. Wings hyaline, with the reticulation blackish and a little interrupted, leaving only the innermost base of the wing free. The following hyaline spots produce the reticulation on the borders of the wing: one before the tip of the auxiliary vein; two between the tips of the first and second longitudinal veins, and sometimes a drop immediately before the tip of the second longitudinal vein, five oblong incisions limiting the four rays emitted to the tip of the wing; a clear drop touching the border beyond the tip of the first longitudinal vein, often confluent with a drop lying immediately above it, and forming thereby an incision; three drops between the tips of the fifth and sixth longitudinal veins, the intermediate of which is the largest; a drop immediately before the tip of the sixth longitudinal vein, and one in the axillary angle. On the middle of the wing there are the following rather large clear drops: one on the hind side of the second longitudinal vein, a little beyond the small transverse vein; the others on the anterior side of the fourth longitudinal vein, one being before, the other behind the small transverse vein; one on the anterior side of the fifth longitudinal vein, and a little before the small transverse vein, having sometimes a small drop on each side; a very large drop in the middle of the third posterior cell, and a very minute one at the innermost base of this cell.

Hab. Cuba. (Poey.)

APPENDIX I.

I give here as an appendix a translation of Wiedemann's descriptions of four species, which I have formerly seen, but have not before me at present.

1. T. lichtensteinii Wied. (Auss. Zweifl. II, 497, 31.) ♂. (Tab. II, fig. 25.)

Clay-colored; wings with the tip, a square spot on the hind border, an oblique band and some dots, brown. Long. corp. 0.2.

Front and antennæ rather bright yellow, all the other parts more or less honey-yellow, turning to clay color on the thorax. The fuscous color of the apex of the wing extends farther along the anterior than on the posterior border, and forms a little tooth on the fourth longitudinal vein; a large square fuscous spot is situated on the hind border, and includes the posterior transverse vein. Between this spot and the brown apex there is a triangular almost hyaline space, having a very limpid drop in each corner, and including a small fuscous spot on the hind border of the wing. The anterior corner of the square fuscous spot is connected with the stigma by an oblique fuscous band, including the small transverse vein; there are besides a small fuscous dot above the fifth longitudinal vein, and another slightly larger below this vein, and also a brown margin of the small basal transverse veins; some pure limpid drops of a rather large size are seen near the borders of the larger brown spots.

Hab. Mexico.

Observation.—The bristle of the antennæ is thickened near the base in a striking and peculiar manner. In each of the sinuses of the large hyaline spots of the wing there is a large whitish drop, not a clear one, as Wiedemann states.

2. T. scutellaris Wied. (Auss. Zweifl. II, 484, 13.) ♂ and ♀. (Tab. II, figs. 26, 27.)

Thorax with the lateral border spotted with black; scutellum polished, brown with a reddish stripe; abdomen marked with blackish-brown bands; wings with brown bands and spots. Long. corp. 0.26.

Antennæ pale ochreous; front isabella-colored, with the upper part gray. Middle of the thorax grayish, with two darker stripes and some little dots. Scutellum polished, with the lateral borders dark brown and the middle reddish. Abdomen very pale gray at the base, with a fuscous band, a little interrupted in its middle; the third, fourth, and fifth abdominal segments each with a similar band at the base, but more interrupted in the middle and attenuated towards the sides. Ovipositor broad, red on each side of the base, the remainder gray, with the tip fuscous. Wings with a brown band running over the basal transverse veins, but not attaining the posterior border; and with a complete band before the middle transverse vein, emitting another oblique band which crosses the two transverse veins and runs to the posterior border. Tip of the wing brown. The costal portion of the space, included by the second band and the brown of the tip, is tinged with brown on its basal half, whereas its apical half is yellow and spotted with brown before a small hyaline margin of the brown apex; one of the brown spots in the yellow half reaches the third longitudinal vein.

Hab. Mexico.

Observation.—The number and size of the black spots on the lateral border of the thorax is rather variable. In the female the abdomen has alternately gray and black bands; in the male only the two last segments of the abdomen are shining black, with the exception of the posterior borders. I am not sure whether this species is a real *Trypeta*, several characters seeming to prove that it belongs to *Ortalis*. Many years have elapsed since I have seen it; besides, at that time I was not quite certain about the true limit between the *Trypetidæ* and *Ortalidæ*.

3. T. comma Wied. (Auss. Zweifl. II, 478, 4.) ♀. (Tab. II, fig. 28.)

Of a pale brick color; thorax with yellowish hair; wings fuscous, with a limpid costal triangle, including a fuscous comma. Long. corp. 0.23.

Antennæ of a light clay color, with the third joint very short. Face of a very pale, front of a more saturated clay color. Thorax with yellowish hair. Scutellum and pleuræ brownish-red. Abdomen a little paler. Ovipositor polished, with the extremity of the tip black. Wings fuscous, with numerous lighter little dots, growing almost hyaline towards the hind border. There is beyond the middle of the costa a triangular limpid excision, including a central fuscous comma, reaching from the costa to the first longitudinal vein; the tip of the wing is, in an almost imperceptible manner, margined interruptedly with hyaline. Poisers yellow, with the knob brown. Legs reddish-ochreous, tarsi paler.

Hab. Kentucky.

Note.—Judging by the character of the picture and the venation of the wings, this species seems to have some relation to *T. solidaginis* Fitch. [I possess specimens from Maryland which answer this description, except that the abdomen is brown, and that there is an elongated hyaline spot at the tip of the sixth longitudinal vein. Macquart (Dipt. Exot. II, 3, p. 229) had evidently a similar specimen before him, and took it for *Trypeta comma.* I incline to believe that he was right.—O. S.]

4. T. culta Wied. (Auss. Zweifl. II, 486, 16.) ♀. (Tab. II, fig. 29.)

Pale reddish-yellow; wings brownish-yellow, marked with limpid drops and a black dot towards the tip, the borders being limpid and radiated with brownish-yellow. Long. corp. 0.3.

Antennæ brownish-yellow, with the third joint very short. Face yellowish, very polished, with three black dots. Front ochreous, on each side with a deep black dot near the antennæ. Eyes golden-green, speckled with purplish. Thorax almost brownish-yellow, with indistinct darker stripes. Scutellum polished, with two black dots at the tip. Abdomen ochreous, with bristly hairs and indistinct fuscous spots. Wings shining, clay colored on the disk, from which several clay-colored rays, margined with brown, run to the borders of the wing; on the disk there are several limpid drops encircled with black, and some brown spots appearing violet in a certain light, and farther towards the apex there is an impressed black dot; on the posterior border, towards the base, some limpid drops may be seen. The costa has two or three small bristles at the end of the auxiliary vein.

Hab. Savannah.

APPENDIX II.

In order to complete this paper on N. A. *Trypetidæ*, it has been deemed useful to reproduce the descriptions of the species of this family found in former authors, but as yet not identified by Mr. Loew. As four of the descriptions of this category are already presented by Mr. Loew in the first appendix, I give here the remaining, according to the list of species on p. 61. Four species only from Jamaica, described by Mr. Walker, have been omitted, as their descriptions, published in English, will always be easily accessible to those desirous to extend their collections to the West

Indian Islands. (These species are: *T. acidusa* Walk., List of Dipt. Brit. Mus., vol. iv. p. 1014; *T. ocresia*, ibid. p. 1016; *T. avala*, ibid. p. 1020; *T. dinia*, ibid. p. 1040.) The descriptions published in foreign languages I have translated into English; all measurements have been reduced to tenths of an inch. O. S.

5. T. fucata Fabr. (Syst. Antl. 321, 24. Ent. Syst. IV, 359, 194.)

Musca antennis setariis, cinerea, ano testaceo, alis fuscis, albo punctatis.

Hab. In Americæ meridionalis insulis. Dr. Pflug.

Corpus parvum, cinereum, ano solo testaceo; alæ fuscæ, punctis numerosissimis albis. Oculi virides.

Antennæ with a bristle, body cinerous, anus testaceous, wings brown, spotted with white. (Islands of South America.)

Body small, cinerous, the anus alone testaceous; wings brown, with numerous white dots; eyes green.

(This is taken from *Entom. Syst.*; the description in *Syst. Antl.* is still shorter.)

6. T. narytia Walk. ♂. (Walk. List. etc. IV, p. 1020.)—Fusca, cinereo tecta, capite fulvo, abdomine piceo, basi fulvo, palpis antennis, pedibusque fulvis, alis limpidis, fusco quadrifasciatis. Long. corp. 0.1. Long. al. about 0.2.

Body brown, thinly clothed with short black hairs; head and chest beset with very few black bristles; head tawny, adorned with white bloom, which occupies only the sides of the crown; sides of the face without bristles; epistoma not prominent; eyes red; forepart slightly convex, its facets a little larger than those elsewhere; sucker black, clothed with tawny hairs; palpi tawny; feelers tawny, shorter than the face; third joint downy, nearly conical, rather more than twice the length of the second, slightly angular on the upper side of the tip; bristle black, bare, tawny and stout at the base, rather more than twice the length of the third joint; chest covered with gray bloom; abdomen pitchy, shining, spindle-shaped, tawny at the base, much longer and a little narrower than the chest; legs tawny, clothed with short black hairs; claws black; wings colorless, adorned with four black bands; the first, second and fourth bands extend but little below the fore border; the third attains the hind border and includes the two cross veins; wing-ribs and veins tawny, the latter dark towards the tips, and in the dark parts of the wing; the distance between the cross-veins is less than the length of the middle cross-vein; poisers tawny.

Hab. Florida. (Mr. Doubleday.)

7. T. mevarna Walk. ♀. (Walk. List. etc. IV, p. 1023.)—Fusca, cinereo tecta, abdomine basi cinereo, apice nigro, palpis, antennis, pedibusque fulvis, alis albis apice fusco radiatis. Long. corp. 0.13. Long. alar. 0.25.

Body dark tawny, thinly clothed with tawny hairs, covered with gray bloom, which has a tawny tinge on the breast; head tawny; sides of the face without bristles; epistoma not prominent; eyes brassy, adorned with green and purple; forepart rather flat, its facets larger than those elsewhere; sucker tawny, clothed with tawny hairs; palpi tawny, beset with tawny bristles; feelers tawny, a little shorter than the face; third joint nearly linear, downy, very slightly rising on the upper side at the tip, which is truncated, full twice the length of the second joint; bristle black, tawny and rather thick at the base, rather more than twice the length of the third joint; abdomen obconical, tawny, gray at the base, black and tapering towards the tip, much longer than the chest; legs tawny, clothed with short black hairs; claws black; wings white, adorned near the tip with a large brown spot, which is darkest along the foreborder, and sends forth nine rays from its paler part; it includes two distinct white dots, and along the border are others incomplete; it has a tawny tinge above the middle cross-vein, which is separated from the lower cross-vein by very little less than the length of the latter; both are perpendicular; wing-ribs tawny; veins black, tawny towards the base; poisers tawny.

Hab. Florida. (Mr. Doubleday.)

8. T. mexicana Wied. ♂. (Auss. Zw. II, 511.)—Fuscano griseâ; pedibus luteis; alis brunneis, basi guttisque maximam partem marginalibus limpidis. Long. corp. 0.09.

Antennæ reddish yellow; face paler; front of a more intense yellowish red; mesothorax brownish-gray; abdomen more blackish-gray, distinctly pubescent with yellow; bases of the wing hyaline, only with two brown streaks between the costa and the next vein; the remainder of the wing, about three-fourths of it, of a saturated brown; the anterior border with two pairs of obliquely elongated limpid drops; a somewhat larger one at the tip of the wing; eight or nine drops on the posterior border, two of which are larger than the others; three drops in a longitudinal row between the third and fourth, and several larger and smaller drops between the fourth and fifth veins; legs bright honey-yellow.

Hab. Mexico. (Berlin Museum.)

9. T. scutellata Wied. ♀. (Auss. Zw. II, 494.)—Fusca, scutello rubido; alis extremâ basi, fasciis, punctisque binis fasciâque anteapicali elutâ fuscis. Long. corp. 0.26.

Body rather slender. Head broader than the thorax. Last joint of antennæ elongated, linear. Antennæ and hypostoma somewhat reddish yellow. Front brownish-red. Body of a shade of brown which holds the middle between the color of chocolate and that of cloves. Thorax with a grayish reflection. Shoulders, scutellum and occiput somewhat pale reddish-yellow. Abdomen narrow, incisions and a longitudinal line, at least beyond the middle, somewhat whitish. Wing with two bands at the root; the anterior one is broader and somewhat curved, the posterior one is narrowed and more straight, running over the usual cross-vein; both are entire and have the middle cross-vein between them. Before the tip of the wing, which is white, there is a somewhat obsolete band; before this band is a transverse streak and still more internally, between the third and fourth vein, a brown dot. Legs brown, femora in part reddish brown.

Hab. Mexico.

10. T. marginepunctata Macq. (Hist. Nat. Dipt. II, 464. ♀. *Tephritis.*) Long. corp. 0.32.

Thorax with a grayish down; abdomen reddish fulvous; wings blackish; several white spots along the borders.

Hab. Philadelphia.

11. T. obliqua Macq. (Hist. Nat. Dipt. II, 464; Dipt. Exot. II, 3, 225. Tab. XXX, f. 11. *Tephritis.*) Long. corp. 0.23.

Yellow; metathorax with two black spots. Wings at basis, along the anterior border and three oblique transverse bands; a hyaline spot at the anterior border, brownish ferruginous.

Hab. Cuba.

Note.—The description has been translated literally, although it is not very clear, and the figure, without description, given in the Diptères Exotiques, does not seem to agree with it.—O. S.

12. T. quadrifasciata Macq. (Dipt. Exot. II, 3, 226, 7. Tab. XXX, f. 8. ♂; *Tephritis.*) Long. corp. 0.24.

Head, proboscis and antennæ ferruginous; antennal bristle tomentose; thorax brown, with a whitish down anteriorly. Abdomen brown, with brownish incisures; legs testaceous; wings brownish fulvous with four hyaline oblique bands, reaching the posterior border; the third of them touches at the same time the anterior border. The spaces between the hyaline bands are fulvous, margined with brown.

Hab. Georgia.

13. T. nigriventris Macq. ♀. (Dipt. Exot. Suppl. V, 124; *Urophora.*)—Testacea; abdomine nigro; alis fuscis, margine externo duabus maculis, interno unâ maculâ, disco duobus punctis limpidis. Long. corp. 0.25.

Proboscis, palpi, face, front and antennæ testaceous; thorax testaceous; its dorsum brownish with a slight whitish down. Abdomen black, shining; legs fulvous, the last joints of the tarsi brown; poisers yellowish-white; wings brown; two hyaline, triangular spots about the middle of the anterior border; interval between these two spots yellow; a similar spot on the posterior border, nearer to the tip; two small, oblong spots, likewise hyaline, about the middle of the disk; neuration normal.

Hab. Baltimore.

14. T. beauvoisii Rob. Desv. (Myodaires, etc., p. 760. *Prionella.*) Length 0.32.

Antennæ and front yellowish; face whitish; thorax brownish-gray on the back, pale fulvous on the sides; abdomen whitish, annulated with reddish-black, with the last segment reddish; legs pale fulvous; wings hyaline with four reddish-brown fasciæ.

This species was contained in Palisot de Beauvois's collection, and probably comes from the United States.

15. T. villosa Rob. Desv. (Ibid. *Prionella.*)

This species, the antennal bristle of which is hairy, has the body, the front, the legs and the antennæ yellow; the back of the thorax shows interrupted, shining black lines; two transverse whitish lines on the abdomen, the last segment of which is black; wings hyaline with four flavescent fasciæ.

Patria like the preceding.

16. T. asteris Harris. (Treatise, etc., 2d edit. p. 498, 3d edit. p. 620.) Long. corp. 0.2.

Of a light yellowish-brown color, with paler legs; wings broad, rounded at the tip and clouded with brown in large spots, forming three wide, irregular bands across them. (New England; produces swellings, as large as a walnut on the stems of the native asters or starworts.)

APPENDIX III.

The manuscript of Mr. Loew was already prepared, when he received from me four *Trypetæ* not described in it. The first is a species of Say; the three others have been published by Mr. Loew since, in the *Berliner Entomologische Zeitschrift*. I reproduce here the description of *T. obliqua* Say, as well as those of the other species, the latter in English translation, as they appeared in Latin. O. S.

17. T. obliqua Say. ♂ and ♀. (*Say*, Journ. Acad. Phil. VI, p. 186.)—Flava, alæ fasciis obliquis flavis, fusco-marginatis, abdomen seriebus duabus punctorum nigrorum.

Yellowish, wings with oblique yellow bands, margined with brown; abdomen with two series of black dots. Long. corp. 0.1—0.13.

Body pale brownish-yellow; wings with a definite yellowish costal border, and three very oblique bands proceeding from the costal border; basal band terminating on the posterior border midway between the fifth and sixth longitudinal veins; middle band terminating at the tip of the fifth vein; outer band terminating at the tip of the fourth vein; yellow margin of the costal border ending a little beyond the third vein; the bands are edged exteriorly with a black line, which is dilated into a spot at tip; thorax with two black dots behind; scutel yellow, pale; abdomen with a series of black dots each side. The wing-bands are parallel and equidistant, the intervals are as broad as the bands.

Hab. Indiana. (Say.) Pennsylvania. (Osten-Sacken, on *Vernonia*, in August.)

Note.—The above description, which is Say's, will be sufficient for the recognition of the species. I have modified the terminology to make it agree with that used in this publication, and will only add that the third longitudinal vein bears some black bristles, that both cross-veins are oblique, that the posterior portion of the fourth vein is distinctly arcuated at its base, and that the tip of the wing has a peculiar whitish reflection.

O. S.

18. T. alba Loew. ♂ and ♀. (Loew, Berl. Entom. Zeitschr. 1861, p. 345.)—Albida, alis concoloribus immaculatis, fronte, pleuris, scutello, segmentorumque abdominalium singulorum margine postico pallide sulphureis, facie cum antennis, pedibus et terebrâ obscurius flavis.

Whitish, wings whitish, without spots, front, pleuræ, scutellum and the posterior border of the abdominal segments pale sulphur-yellow; face, antennæ, legs and borer of the ♀ darker yellow. Long. corp. 0.13—0.17. Long. al. 0.15—0.16.

Antennæ of moderate length; tip of the third joint round, bristles with a very short pubescence. Eyes large, almost round; cheeks moderate. Oral opening moderate, rounded, proboscis not geniculated, palpi short. Scutellum flat, with four bristles. Borer of the ♀ flattened, ferruginous-yellow, longer than the three last segments of the abdomen taken together. Wings whitish, all the veins very pale, and, except the first longitudinal one, bare; posterior angle of the anal cell acute.

Hab. Pennsylvania. (Osten-Sacken; taken on *Vernonia novæboracensis*, iron weed, together with the two following species, and with *T. obliqua* Say; in August.)

19. T. albidipennis Loew. ♂ and ♀. (Loew, Berl. Entom. Zeitschr. 1861, p. 345.)—Nigro-cinerea, thoracis dorso albicante, capite, thoracis vittâ laterali scutelloque sulphureis, alarum albidarum stigmate fusco, terebrâ fœminæ atrâ.

Blackish cinereous, thorax more whitish above, head, a lateral stripe on the thorax, and the scutellum sulphur-yellow, wings whitish, stigma fuscous, borer of ♀ black. Long. corp. 0.17—0.20. Long. al. 0.18—0.19.

Antennæ moderate, ferruginous-yellow, tip of the third joint rounded, bristle almost bare. Eyes large, almost round; cheeks moderate; proboscis not geniculated, palpi short. Thorax dusted with whitish above, with a short, whitish pubescence and black bristles; scutellum with four bristles. Abdomen with black hair. Borer of ♀ flattened, black, with black hair; a little longer than the three last joints of the abdomen taken together. Feet brownish-black, trochanters, knees, tip of the tibiæ and the tarsi yellowish ferruginous. Wings whitish, stigma brown, all the veins, except the first longitudinal one, bare, pale yellow on the basal part of the wing, brown beyond it.

Hab. Pennsylvania. (Osten-Sacken, on *Vernonia*, in August.)

20. T. vernoniæ Loew. ♂ and ♀. (Loew, Berl. Entom. Zeitsch. 1861, p. 346.)—Helva, metanoto nigro, capite, thoracis vittâ laterali, superiore pleurarum parte et scutello pallidius, antennis, terebrâ, pedibusque obscurius flavis; alarum dimidio apicali fasciis tribus fuscis subreticulato, primâ incompletâ et obsoletiore, secundâ integrâ, tertiâ postice abbreviatâ.

Pale yellowish, metanotum black, head, lateral stripe of the thorax, upper part of the pleuræ and scutellum pale yellow, antennæ, borer and legs darker yellow; apical half of the wing subreticulated with three brown bands, the first of which incomplete and less apparent, the second entire, the third abbreviated posteriorly. Long. corp. 0.18—0.22. Long. al. 0.17—0.18.

Head yellow, orbit of the eyes narrow, with a silvery reflection. Antennæ ochreous, third joint oblong, bristle almost bare. Oral opening rather large, rounded, proboscis not geniculated, palpi moderate. Eyes large, oblong. Thorax above clothed with a short, whitish pubescence, and with faintly brownish bristles. Scutellum flat, with four bristles. Metanotum black, dusted with whitish. Abdomen yellowish luteous (*ex helvò luteum*), with black hairs on the lateral margin and on the last segments; remaining portion with yellow hairs. Borer of ♀ ochraceous, shining, somewhat flattened, equal to the three last abdominal segments taken together, clothed with soft, blackish hair. Legs fulvescent. Wings subhyaline, subreticulated with fuscous by means of three irregular transverse bands and some small apical spots; the first band, which is much abbreviated posteriorly, starts from the infuscated base of the stigma and runs obliquely towards the central transverse vein and frequently becomes obsolete, leaving, however, a brown cloud on the transverse vein; the second band is narrow and straight, extending from the costa to the posterior margin; the third band is unequal, abbreviated posteriorly, and coalescent with the spots on the costa. First longitudinal vein beset with bristles, the others naked.

Hab. Pennsylvania. (Osten-Sacken, on *Vernonia*, in August.)

Note.—The first of the bands on the wings terminates posteriorly in a faint brown line, running along the discal cell and parallel to the longitudinal veins; the second and third bands being more or less coalescent, the space between the second and the tip of the wing may be described as brown, with five round, hyaline spots (one between the costa and the second longitudinal vein; the second, just below the first, between the latter and the next vein; the third between the same veins, but nearer to the tip of the wing; the fourth on the fourth longitudinal vein, just behind the posterior transverse vein; the fifth and largest at the tip of the wing, between the third and fourth longitudinal veins); second posterior cell hyaline, except a margin along the veins, which is clouded. The brown is more or less intense in different specimens, and hence the hyaline spots, especially the posterior ones, are sometimes less apparent.—O. S.

III.

ON THE NORTH AMERICAN SCIOMYZIDÆ.

The family *Sciomyzidæ* is principally based on the three genera: *Sciomyza* Fall., *Tetanocera* Dum. and *Sepedon* Latr., all occurring in North America, and on the genus *Thecomyia* Perty.

The attempt to subdivide the second of these genera has been made in various ways, but without success. I omit, therefore, to mention the genera thus formed, especially on account of the scantiness of my materials.

Sciomyza has been also subdivided into smaller genera, namely: *Graphomyza* Macq., *Pelidnoptera* Rond., *Ctenulus* Rond. and *Calobaea* Zett., the last of which, differing from all the other *Sciomyzidæ* by its much smaller basal cells, may be considered as an osculant genus. Some of the species placed by *Meigen* in *Sciomyza* belong neither to that genus nor to the *Sciomyzidæ* at all.

The characters distinguishing the *Sciomyzidæ* from all the other *Acalyptera* are as follows. The anterior frontal border more or less prominent; face receding, proportionately long, with the oral border sharp; no distinct furrows for the reception of the antennæ; no vibrissæ on the oral border; the front with two bristles, one behind the other on each side before the lateral bristles of the vertex; the costal vein of the wings uninterrupted, without spine, reaching to the fourth longitudinal vein; the auxiliary vein distinctly separated from the first longitudinal vein on its whole length; the two basal cells much developed, rather large, smaller only in the osculant genus *Calobaea* Zett. The legs have short hairs and very few bristles, and are of moderate length and rather stout, but not clumsy; all the anterior legs, especially their tibiæ and tarsi, are more developed than in the allied families; all the tibiæ on their outside before the tips have a small, erect, more or less distinct bristle; the intermediate tibiæ have a certain number of stout bristles at the tip; the fore and hind tibiæ have a single weak bristle.

Synopsis of the North American genera.

1	The third joint of the antennæ not circular.	2
	The third joint of the antennæ circular.	Sciomyza *Fall.*
2	Antennæ only a little prolonged; front not excavated; eyes not protuberant.	Tetanocera *Dum.*
	Antennæ much prolonged; front excavated; eyes protuberant.	Sepedon *Latr.*

Gen. I. **SCIOMYZA** Fall.

Only three N. A. species of this genus have been described, all by Mr. Walker. His description of *Sciom. antica* is made in so careless a manner that it is quite impossible to recognize it, and *Sciom. parallela* Walk. seems to be no *Sciomyza* at all. *Sciomyza nigripalpa* Walk. is certainly not among the three species known to me. The scantiness of my present material scarcely warrants my undertaking to describe the N. A. species of *Sciomyza,* but I will present what I have to say about them, in connection with the *Sciomyzidæ* generally.

There is no reason for discussing here the smaller genera separated from the old genus *Sciomyza,* or to point out the subdivisions to be made, since the three species known to me belong all to the group of the typical species of *Sciomyza.*

*Synopsis of the Species.**

1	Wings spotted.	1 **nana** *Fall.*
	Wings not spotted, the transverse veins only clouded with brown.	2
2	The two bristles on each side of the front extant.	2 **obtusa** *Fall.*
	The foremost of the lateral frontal bristles wanting.	3 **pubera,** n. sp.

1. S. nana Fall. ♂ and ♀.—Cinerea, thorace vittato, alis nigro-maculatis.

Gray, with the thorax striped, and the wings spotted with blackish. Long. corp. 0.1—0.13. Long. al. 0.11—0.14.

Syn. *Sciomyza nana* Fallen, Sciom. 15, 12.—Meigen, Syst. Beschr. VI, 13, 19.—Zetterstedt, Dipt. Scand. V, 2109, 18.

Quite agreeing with the European specimens. Ashy gray. Front opaque yellow, with the ocellar triangle and the lateral

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* The fourth species, added when the manuscript was already in press, is not included in this synopsis.—O. S.

stripes reaching as far as the middle of the front, yellowish-gray. Antennæ yellowish-ferruginous, usually paler at the base, with the blackish-brown bristle beset with a short pubescence. Face whitish. Upper side of the thorax with four brown longitudinal lines, the two intermediate ones approximated and confluent with their hind ends, the two lateral ones narrower and less complete. Scutellum with a broad brown middle stripe. Pleuræ brown, in the middle with a broad longitudinal stripe pollinose with yellowish, and a similar, but more indistinct longitudinal stripe more underneath. Abdomen brownish-gray, pollinose with paler on the lateral border, the posterior corners of the segments being whitish. Forelegs black, with the coxæ and the last joint of the tarsi whitish, and the extremity of the knees brownish-yellow. Middle and hind legs brownish-yellow, with the tips and upper side of the hind femora brownish black; tips of the middle and hind tibiæ black, the last joints of the middle and hind tarsi brownish. The dark color is sometimes more, sometimes less extended on the posterior legs than is described here. Wings hyaline, slightly grayish; the costal border is margined with blackish, from the tip of the first as far as the tip of the second longitudinal vein; from the end of this margin a blackish transverse band runs as far as the fourth longitudinal vein; between it and the small transverse vein there are two small blackish spots; the small transverse vein is clouded with blackish; the posterior transverse vein is a little curved and marked with a larger blackish spot at its anterior end, and a smaller at its posterior end, both of which but rarely coalesce so as to form a complete margin.

Hab. Middle States. (Osten-Sacken.)

2. S. obtusa Fall. ♂.—Fusco-cinerea, antennarum setâ plumatâ, venis alarum transversis fusco-limbatis.

Grayish-brown, the antennal bristle plumose, the transverse veins clouded with blackish-brown. Long. corp. 0.22. Long. al. 0.22.

Syn. *Sciomyza obtusa* Fallen, Sciom. 13, 4, var. a.—Meigen, Syst. Beschr. VI, 12, 6.—Zetterstedt, Dipt. Scand. V, 2099, 10.

I see no difference between the single N. A. individual I possess and that European species which is generally considered as the true *Sciomyza obtusa* Fall. But to prevent misunderstandings I must observe that there exists another species hitherto undescribed, differing from *Sciom. obtusa* Fall. by its antennæ having a shorter pectinated bristle, but otherwise resembling that species so much that it is commonly confounded with it. Grayish-brown. Front opaque yellow near its anterior border, remainder yellowish-ferruginous; the ocellar triangle and the lateral stripes reaching beyond the middle of the front are yellowish-gray. Antennæ yellowish-ferruginous, with the bristle dark brown, yellowish-brown at the base, and having black hairs of moderate length. Face yellow. Upper side of the thorax, with the exception of the lateral borders, more brownish than gray, with darker brown longitudinal lines, the two intermediate ones being darker and more distinct, the lateral ones doubled behind the suture. Scutellum flat, yellowish-brown, pollinose with grayish-yellow. Pleuræ dark brown, with a broad, more chestnut brown longitudinal stripe running from the shoulder to the base of the wing, and having underneath a hardly distinct longitudinal stripe formed by paler pollen. Legs rather dark brown, especially the anterior ones. Tips of the fore and hind tibiæ black; tarsi blackish towards the end. Wings grayish-brown, clouded with rather smoky brown near the costal border; transverse veins clouded with blackish-brown; the posterior transverse vein is slightly oblique and straight.

Hab. Illinois. (Kennicott.)

3. S. pubera, Loew. ♂—Fusco-cinerea, setâ antennarum breviter plumatâ, metatarso antico albo, venis alarum transversis fusco-limbatis.

Grayish-brown, the antennal bristle brevi-plumose, the first joint of the anterior tarsi whitish, and the transverse veins clouded with blackish-brown. Long. corp. 0.21. Long. al. 0.21.

Front opaque, sordid yellow near the anterior border, remainder more yellowish-ferruginous, with the ocellar triangle and the lateral stripes brownish-gray, the latter reaching to the middle of the front, the foremost bristle wanting. Antennæ ferruginous, bristle brown, with a short pubescence. Face pollinose with white. Upper side of the thorax grayish-brown, with but little distinct darker brown longitudinal lines. Scutellum flat, a little paler than the upper side of the thorax. Pleuræ rather dark brown, pollinose with whitish, without distinct longitudinal stripes. Ground color of the abdomen almost brownish-black; on each segment there is a large triangular, not pollinose, spot, its tip reaching as far as the hind border of the segment, the remainder of the segment is covered with whitish pollen, which is much more dense on the hind border, and makes it appear quite pale, whereas on each side, near the lateral border, there is a vestige of a less pollinose, dark spot. The exterior genitals of the male are yellowish-brown. Legs almost blackish-brown, the intermediate ones, as well as all knees, part of the hind femora, and a great part of the hind tibiæ, more yellow; anterior coxæ yellowish, with a whitish reflection; first joint of the fore tarsi whitish; the following four black; the intermediate tarsi have a rather pale brownish-yellow ground color, rendered much darker by their short black hairs, their two last joints appearing brownish on the upper side; the hind tarsi are like the intermediate ones, but have the three last joints blackish. Wings grayish-hyaline, with the transverse veins margined with blackish, the posterior transverse vein straight and quite perpendicular. Besides the want of the foremost lateral bristle on the front, this species is distinguished from the other species of *Sciomyza* by its abdomen having the black hairs denser, longer, and finer than those.

Hab. Middle States. (Osten-Sacken.)

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4. S. luctifera Loew. ♂. (Translated from Berl. Entom. Zeitschr. 1861, p. 345, by Bar. O. Sacken.)—Nigra, thorace cinereo, facie albâ, antennis et fronte fulvis, coxis anticis albis, pedibus nigris, tarsis posterioribus sordide albis, alis nigricantibus, margine costali nigro-limbato.

Black, thorax cinereous, face white, antennæ and front fulvous, fore coxæ white, feet black, posterior tarsi of a dirty whitish, wings tinged with blackish, costal border margined with black. Long. corp. 0.13. Long. al. 0.1.

Small, black. Face, cheeks, and the inferior part of the occiput, white. Antennæ and front fulvous, lateral stripes of the latter abbreviated anteriorly; ocellar triangle and the upper part of the occiput cinereous. Thorax dark cinereous, with black hair. Fore legs black, their coxæ white, with a silvery reflection; posterior feet black, trochanters and tarsi dirty whitish, their apex black. Wings of moderate size, tinged with blackish, with a rather broad black margin near the costa.

Hab. Pennsylvania. (Osten-Sacken.)

Note.—In younger specimens, the black color of the intermediate pair of feet is more or less brownish.

Gen. II. **TETANOCERA** Dum.

Among the recorded N. A. species of *Tetanocera*, *Tet. boscii* has been characterized so insufficiently by Rob. Desvoidy, that there is no possibility of identifying it. *Tet. canadensis*, described by Macquart, is also unknown to me. *Tet. guttularis* Wied. is mentioned by Macquart as a native of North America; but I must consider this statement as a mistake, since the characters he gives do not agree with the description of *Tet. guttularis* Wied.; but what species he has taken for *Tet. guttularis* has not as yet been made out. As to the other described species, the following paper will give all the necessary information:—

*Synopsis of the Species.**

1	Wings reticulated.	2
	Wings not reticulated.	11
2	Bristle of the antennæ plumose with black.	3
	Bristle of the antennæ plumose with white.	6
3	Front with three shining stripes.	4
	Front without shining stripes.	5
4	Posterior transverse vein oblique and curved.	1 **clara**, n. sp.
	Posterior transverse vein almost perpendicular and straight.	2 **valida**, n. sp.
5	Femora spotted.	3 **pictipes** *Loew.*
	Femora quite unspotted.	4 **pallida** *Loew.*
6	Thorax without stripes.	7
	Thorax with stripes.	8
7	Femora entirely yellow.	5 **flavescens** *Loew.*
	Femora very brownish at the base.	6 **arcuata** *Loew.*
8	The brown margin of the costal border of the wings interrupted by clear spots.	9
	Costal border of the wings with an uninterrupted brown margin.	10
9	The reticulation of the wings shows double bands consisting of spots arranged by pairs.	7 **combinata** *Loew.*
	The reticulation forms no double bands at all.	8 **sparsa**, n. sp.
10	Posterior transverse vein straight.	9 **costalis**, n. sp.
	Posterior transverse vein much curved.	10 **saratogensis** *Fitch.*
11	Posterior transverse vein curved and rather steep.	11 **plebeja**, n. sp.
	Posterior transverse vein curved in the shape of an S, and very oblique.	12 **plumosa** *Loew.*

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* The two species (Nos. 13 and 14), added when the manuscript was already in press, are not included in this synopsis.—O. S.

1. T. clara Loew. ♀.—Seta antennarum nigro-plumosa; vittæ in fronte lævigatæ tres; alæ parce et grosse reticulatæ, venâ transversâ posteriore obliquâ.

Bristle of the antennæ plumose with black, front with three shining stripes, reticulation of the wings sparse and coarse, posterior transverse vein oblique. Long. corp. 0.32. Long. al. 0.32.

A beautiful large species. Pale yellow. Face white, not much receding. Palpi and proboscis whitish-yellow. Front rather dark ochreous, with three very shining longitudinal stripes; the middle one distinctly widened towards its anterior end, the lateral ones near the borders of the eyes and reaching only very little beyond the foremost frontal bristle, hence not much transgressing the middle of the front. Antennæ ochreous, the two first joints short, beset with black hair, the third a little longer than the two first taken together, moderately broad and only moderately pointed; the black bristle with dense, very long, black hairs. Neither the lateral borders of the front, nor the yellow occiput have black spots. Thorax yellowish, with two brownish middle stripes separated by a broad line, and on each side with a more indistinct and less complete lateral stripe. Scutellum with brownish middle and yellowish borders. Pleuræ whitish-yellow, with a narrow brown longitudinal stripe on their superior border. Abdomen without distinct markings. Legs whitish-yellow, the end of the tarsi only a little blackish; posterior femora with a short, not very close pubescence on their under side, and only one or two longer black bristles on the second third. Wings large and rather broad, somewhat tinged with tawny; the whole stigma and the broad clouds of the small and of the posterior transverse veins brownish-black; also the tip of the wing margined with brownish-black; before the second longitudinal vein there are some small, rather indistinct, brownish-black spots, and about four or six larger and darker transverse spots between the second and third longitudinal veins, running from vein to vein, the last of which are most distinct, and include small rudiments of veins rising from the second longitudinal vein; between the third and fourth longitudinal veins there are, beyond the small transverse vein, two or three brownish-black transverse streaks running from vein to vein; on the posterior side of the fourth longitudinal vein there are only two very small brownish-black spots, one before, the other behind the small transverse vein, which, I suppose, are not always present. The remainder of the wings is unspotted. The posterior transverse vein is oblique and moderately curved.

Hab. Trenton Falls, N. Y. (Osten-Sacken.)

2. T. valida Loew. ♀.—Seta antennarum nigro-plumosa; vittæ frontales tres lævigatæ; alæ parce et grosse reticulatæ, venâ transversâ posteriore perpendiculari.

Bristle of the antennæ plumose with black, front with three shining stripes, reticulation of the wings sparse and coarse; posterior transverse vein almost perpendicular. Long. corp. 0.29. Long. al. 0.29.

Pale yellow. Face yellowish-white, only moderately receding; palpi and proboscis whitish-yellow. Front orange-yellow, with three very bright longitudinal stripes; the middle stripe not distinctly widened towards its anterior end, the lateral ones reaching a little beyond the foremost frontal bristle, which is inserted rather lower than in the preceding species, so that the lateral stripes reach a little nearer to the anterior border of the front. Antennæ ochreous, having the two first joints short, with black hairs; the third a little longer than the two first taken together, moderately broad and only a little pointed; the bristle of the antennæ with dense, very long, black hairs. There are no black spots on the lateral border of the front, nor on the yellow occiput. Thorax yellowish, with indistinct brownish longitudinal stripes. Pleuræ whitish-yellow, with a narrow brown longitudinal stripe on their superior border. Abdomen without distinct markings. Legs whitish-yellow, with the tips of the tarsi a little blackish; posterior femora with short, not very dense hairs on the under side and only two longer bristles on the second third. Wings proportionately a little smaller than in the foregoing species, somewhat tinged with tawny. The stigma, smaller than in the foregoing species, is brownish-black; the transverse veins and the tip of the wings are clouded with brownish-black; before the second longitudinal vein there are six or eight small but distinct brownish-black spots; between the second and third longitudinal veins there are four or five darker ones running from vein to vein, the last of which are more distinct; between the third and fourth longitudinal veins there are, behind the small transverse vein, four or five brownish-black transverse streaks; at the posterior side of the fourth longitudinal vein there are two rather large brownish-black spots, one before, the other, larger one behind the posterior transverse vein; on the anterior and posterior sides of the fifth longitudinal vein there are some small brownish-black alternating spots; the remainder of the wing is unspotted; the posterior transverse vein straight and rather perpendicular.

Observation.—Although this species is very similar to the foregoing, and I have only a single individual before me, its specific distinctness seems to be beyond doubt. The straight and rather steep posterior transverse vein, the lateral frontal stripes reaching farther forwards and the middle frontal stripe not being dilated anteriorly afford the best characters for distinguishing *Tet. valida* from *Tet. clara.*

3. T. pictipes Loew. ♂ and ♀.—Seta antennarum nigro-plumosa; vittæ frontales lævigatæ nullæ; alæ confertim guttato-reticulatæ; femora maculata.

Bristle of the antennæ plumose with black, front without shining stripes; wings densely reticulated with confluent fuscous spots and limpid drops, femora spotted. Long. corp. 0.24—0.26. Long. al. 0.23—0.26.

Syn. *Tetanocera pictipes* Loew, Wien. Ent. Monatsch. III, 292.

Front almost more pale brownish than yellow, opaque, beset, on its anterior part, with sparse short black hair, rising from hardly visible dark dots; hardly a trace of an excavated middle stripe; all that gloss which other species possess is totally wanting, and only a fine whitish dusted longitudinal line is visible. Each side of the front near the border of the eye a brownish-black dot, and more forwards between the antennæ and the anterior corner of the eye another small brown or blackish-brown spot. The face is silvery white, and recedes only moderately; its middle is marked with a very small black spot; on the cheeks there is a brown or blackish-brown longitudinal streak. The first and second joints of the antennæ are yellowish-brown; the third is more yellowish-ferruginous, scarcely longer than the second, not much pointed, its upper side being distinctly excised; the black bristle has a brownish-yellow base, and a scanty, rather long black pubescence; some individuals differ by the color of the antennæ being quite ferruginous brown. The upperside of the thorax is quite opaque, brownish cinereous, closely covered with small dark brown dots, which coalesce to larger spots, forming four rows, and having a rather variable size. Scutellum gray, in the middle brown, with small dark brown dots, on the borders with four black dots bearing the ordinary bristles, the hindmost of which are far longer than the others. The ground color of the abdomen is more blackish than that of the thorax, the posterior and the lateral borders of the segments being usually more brown; besides, the abdomen is covered with a rather light dust and beset with small brown dots coalescing near the lateral border into a row of obsolete spots, and in the middle of each segment into a longitudinal spot, so that a dark middle stripe, interrupted by the incisions, is formed. The sixth segment, being clavate in the male, has a large blackish-brown spot on each side, leaving in the middle a grayish or whitish mark, resembling, as it were, a cup. The ground color of the femora is little visible, being covered with light dust and speckled with black dots; immediately before the tip they are surrounded with an almost black more or less visible ring, and an almost concolorous spot before this ring on the under side. The tibiæ are yellowish-brown, with the tips blackish; the tarsi have the same color as the tibiæ, but are generally a little paler; usually the anterior ones have the three last joints, and sometimes a great part of the first, blackened, whereas in the remaining tarsi only the two last joints, or even the last alone, is blackish. The wings are more guttated than reticulated; the color of the posterior part is more gray; immediately along the longitudinal veins, and in the neighborhood of the costa, it is much darker and almost brown. The largest drops, the color of which is almost white, are scattered over the posterior part of the wing; on the anterior part they are placed near the longitudinal veins; on the costa, between the tips of the first and second longitudinal veins, there are only three small clear quadrangular spots.

Hab. Washington. (Osten-Sacken.)

Observation.—A series of specimens enables me to compare this species with the closely allied European *Tet. umbrarum* Linn. The resemblance of both is so great that I cannot but suspect that they are identical. No difference of structure existing between them, the larger size and browner color of *Tet. pictipes* alone afford a constant distinguishing character. Future observations will perhaps enable us to decide whether *Tet. pictipes* is merely a climatic variety of *Tet. umbrarum* or a different species.

Note.—I possess a specimen from Great Slave Lake, H. B. T., and have seen another from Maine, both perfectly agreeing in size and color with the European specimens. Is this fact to be considered as a proof of the identity or of the diversity of *T. pictipes* and *T. umbrarum?* The answer to this question appears to me far from certain.—O. S.

4. T. pallida Loew. ♂ and ♀.—Seta antennarum nigro-plumata; vittæ frontales lævigatæ nullæ; alæ confertim guttato-reticulatæ; femora immaculata.

Bristle of the antennæ plumose with black, front without shining stripes, wings rather densely reticulated with dark spots and limpid drops, femora quite unspotted. Long. corp. 0.29. Long. al. 0.27.

Syn. *Tetanocera pallida* Loew, Wien. Ent. Monatsch. III, 294.

Yellowish-brown, opaque. Front more yellow, opaque, without black spot near the orbit, the excavated middle stripe very narrow, not glossy; between the antennæ and the anterior corner of the eyes there is a small brown spot. Face white, considerably receding, excavated in its middle more than in most other species. Antennæ yellow with the third joint hardly as long as the second, its superior edge not distinctly excised, and its end very little pointed; the antennal bristle blackish, with the base only yellow, and the blackish hairs rather long, but not very close. Upper side of the thorax not punctured, with four complete brown longitudinal stripes, and on its posterior half immediately beside the lateral stripe, a fine, less distinct, brown, longitudinal line. Scutellum with a brown middle stripe. Pleuræ with a broad brown longitudinal stripe at the superior border, the remainder being everywhere whitish hoary. Abdomen unicolorous, with a blackish middle line, and on each side a brown linear stripe, all of them interrupted at the incisions. Legs yellowish, with the tips of the tarsi a little blackish. Wings somewhat yellowish towards the base with the reticulation moderately close and rather guttated, darker brownish-black at the costal and apical border; before the second longitudinal vein there are about six small clear dots, which do not reach the costal border itself; the small transverse vein is some distance before the middle of the discal cell, and the posterior transverse vein is very distinctly curved.

Hab. Middle States. (Osten-Sacken.)

5. T. flavescens Loew. ♂.—Seta antennarum albo-plumosa; thorax punctulatus; alæ confertim guttato-reticulatæ; femora tota pallide flavescentia.

Bristle of the antennæ plumose with white, thorax punctured, wings densely reticulated with dark spots and limpid drops, femora quite yellowish. Long. corp. 0.33. Long. al. 0.26.

SYN. *Tetanocera flavescens* LOEW, Stett. Ent. Zeit. VIII, 123.—LOEW, Wien. Ent. Monatsch. III, 291.

Pale yellowish-brown, somewhat shaded into testaceous. Face white, rather considerably receding beneath. Antennæ yellow; the third joint, when viewed sideways, nearly as long as the broad second joint, not distinctly excised on its upper side, little pointed; the antennal bristle yellowish with close, white plumation of moderate length. Front yellow, opaque, with the excavated, polished middle stripe distinctly tapering anteriorly; on each side of the orbit there is an oblong oval black spot of rather considerable size and another more anteriorly, between the antennæ and the anterior corner of the eyes. Upper side of the thorax marked with close small brown dots and besides with four rather incomplete rows of small dark brown spots far distant from each other. Scutellum rather convex, glossy, almost blackish-brown, a little dusted with whitish near the base, and having a terminal dot formed of whitish dust. Pleuræ with a conspicuous, parallel, brownish-red longitudinal stripe at the superior border, below which they appear paler from their whitish dust. Abdomen with a dark middle line and near each lateral border a broad, brown one, all of them interrupted at the incisions; the fourth and fifth segments bear each a glossy yellowish-brown spot more distant from the border than the lateral lines. Legs brownish-yellow with the tips of the tibiæ and the whole of the tarsi appearing darker in consequence of the greater density of the black hair, whereas in reality the two last joints only of the anterior and posterior tarsi are blackened; the under side of the posterior femora is beset with very numerous short and many longer black bristles. Wings rather broad and obtuse, with the whole surface coarsely and rather uniformly reticulated, so that there are no fasciæ; some larger brown spots on the costal border, but no clearer spots on the apical border; the small transverse vein is very far from the discal cell, and the posterior transverse vein is only little curved and rather steep.

Hab. Carolina. (Zimmerman.)

Observation.—When naming this species I overlooked the fact that Rob. Desvoidy already has a *Tet. flavescens.* Consequently I should have altered the name, had I not before me a larger number of specimens of *Tet. arcuata* proving that this species is rather variable, and that therefore its distinctness from *Tet. flavescens* is not quite certain. Should the identity of both species be proved, the name of "*flavescens*" as being preoccupied must be dropped, and that of *Tet. arcuata* adopted for the species; should, however, future observations prove their distinctness, it will then be time enough to choose another name for *Tet. flavescens.*

6. T. arcuata Loew. ♂ and ♀.—Seta antennarum albo-plumosa; thorax punctulatus; alæ confertim guttato-reticulatæ; femoræ antica basim versus fusca.

Bristle of the antennæ plumose with white; thorax punctured, wings densely reticulated with dark spots and limpid drops; anterior femora brown towards the base. Long. corp. 0.18—0.3. Long. al. 0.2—0.23.

Syn. *Tetanocera arcuata* Loew, Wien. Ent. Monatsch. III, 292.

So similar to the foregoing that it is very easy to confound them, and after the detailed description which I have given of *Tet. flavescens*, it will be quite sufficient to point out the characters by which *Tet. arcuata* differs from it. It is always a little smaller, sometimes much smaller than *Tet. flavescens;* its second antennal joint, too, seems to be comparatively smaller and narrower, and the small brown spots on the upper side of the thorax beside the small dots, are distinctly smaller. The anterior femora are to a considerable extent brown at the base; their tips as well as the base of the posterior femora are not seldom very brownish; the anterior tibiæ are blackened to a certain extent, and the posterior tibiæ have this color at their very tips; the three last joints of the anterior tarsi are blackish.

Hab. Middle States. (Osten-Sacken.)

Observation.—The more specimens of *Tet. arcuata* I was able to examine, the more it appeared doubtful to me whether *Tet. flavescens* ought not to be taken merely for an exceedingly large and pale variety of *Tet. arcuata.* The only difference existing in the structure is, as it seems, the somewhat smaller breadth of the second joint of the antennæ in *Tet. arcuata;* this is a very trifling one, and perhaps only a character belonging to smaller specimens. The narrow arcuated band running over the posterior transverse vein of the wings, by which the first specimen which I received was distinguished, was either more indistinct or quite wanting in the specimens sent to me afterwards.

7. T. combinata Loew. ♀.—Seta antennarum albo-plumosa; thorax vittatus; alæ maculato-reticulatæ, maculis fascias duplicatas efficientibus, limbo marginis antici obscuro nullo.

Bristle of the antennæ plumose with white, thorax striped, wings reticulated with dark spots forming double bands, costal border without dark margin. Long. corp. 0.26. Long. al. 0.22.

Syn. *Tetanocera combinata* Loew, Wien. Ent. Monatsch. III, 295.

Reddish-brown, more acorn-colored on the abdomen. Front dark yellow with the middle stripe broad, impressed, polished, narrowed anteriorly, a small black dot being on each side near the orbit, and a second more anteriorly between the antennæ and anterior corner of the eye. The face white, not much receding, rather excavated in the middle. Antennæ yellow, third joint short, with the upper edge margined with blackish and not distinctly excised; the antennal bristle yellowish at the base, with a white plumation of moderate length. Upper side of the thorax almost brownish-ferruginous, with broad lateral borders dusted with whitish; the two longitudinal stripes in the middle are blackish and covered with dense white dust. The scutellum is of the same color as the upper side of the thorax, and has the sides dusted with whitish. The pleuræ too resemble the upper side of the thorax in their color, appearing however, with the exception of a longitudinal stripe on their superior part, of a paler shade, on account of their whitish dust. Immediately before the poisers there is a very conspicuous, rounded, brownish-black spot. The abdomen is more acorn-colored; it has a black middle stripe not sharply bordered and interrupted at the incisions, and a rather broad, polished, brownish-red stripe at some distance from each lateral border. Legs brownish-yellow, the tibiæ a little darker than the femora; the tarsi blackish towards their tip. Wings rather yellowish, having the reticulation formed by narrow, gray stripes in the middle of the intervals and by brown spots reaching from the longitudinal veins as far as these stripes; the brown spots are arranged so as to form distinct double bands running across the wing; the last of these bands is at the very tip of the wing, the penultimate runs between it and the posterior transverse vein; the antepenultimate runs over the posterior transverse vein itself; there is besides, anteriorly, the beginning of a double band before the penultimate band; the small transverse vein is a little before the middle of the discal cell; the posterior transverse vein is a little curved and rather steep.

Hab. Middle States. (Osten-Sacken.)

8. T. sparsa Loew. ♂ and ♀.—Seta antennarum albo-plumosa; thorax vittatus; alæ maculato-reticulatæ, fasciis duplicatis nullis, limbo marginis antici obscuro nullo.

Bristle of the antennæ plumose with white, thorax striped, wings reticulated with dark spots forming no double bands, costal border without dark margin. Long. corp. 0.24. Long. al. 0.22.

Yellowish-brown, opaque. Front dark yellow, with the middle stripe broad, impressed, polished, not narrowed anteriorly; a small black dot is on each side in the neighborhood of the orbit, and a second is more anteriorly between the antennæ and the anterior corner of the eye. Face white, not much receding, rather excavated in the middle. Antennæ yellow; the third joint nearly as long as the second, a little excised on the upper side, rather pointed; the bristle of the antennæ with the base yellow, its pubescence whitish. Upper side of the thorax with two brown middle stripes connected posteriorly and separated anteriorly, and not reaching the anterior border of the thorax; two broader lateral stripes are of the same color, but not so distinct. The scutellum also is of the colour of the thorax, but dusted with whitish on the sides. Pleuræ paler than the upper side of the thorax, having, towards their superior border, a brownish-red longitudinal stripe continued as far as below the poisers. The abdomen has a very indistinct, dark middle line interrupted at the incisions; on each side, at a distance from the lateral border, a brighter stripe not differing sensibly in color from the general color of the abdomen. Legs pale yellowish; tibiæ not darker than the femora; tarsi blackish towards their tips. Wings only little yellowish; the reticulation is formed by very narrow, gray stripes running in the middle of the intervals, and by brown spots reaching from the longitudinal veins as far as the stripes; the brown spots are arranged so as to form no double bands, showing only the anterior indistinct beginnings of some narrow simple bands, the number of which is three, besides the narrow margin of the tip of the wing. The small transverse vein is a little before the middle of the discal cell; the posterior transverse vein is only very little curved and rather steep.

Hab. Middle States. (Osten-Sacken.)

Observation.—*Tet. sparsa* differs too much from *Tet. combinata* in the markings of the wings to be considered as identical with it. I have, however, to remind, that they agree much more in their structure than is usual in nearly-related species of this genus, and that my opinion, formed on very scanty materials (1 ♀ of *Tet. combinata*, 1 ♂ and 1 ♀ of *Tet. sparsa*), cannot but have a very secondary weight. Nor will the difference in the markings of the thorax, however striking they may seem, solve the question, since, in somewhat immature specimens, they always appear inconstant, and are often variable even in quite mature ones.

9. T. costalis Loew. ♂.—Seta antennarum albo-plumosa; thorax vittatus; alæ grosse maculato-reticulatæ, margine antico anguste nigrolimbato, venâ transversâ posteriore perpendiculari, rectâ.

Bristle of the antennæ plumose with white, thorax striped, wings reticulated with coarse dark spots and the costal border having a narrow black margin, posterior transverse vein perpendicular and straight. Long. corp. 0.17. Long. al. 0.17.

Yellowish-brown, somewhat tinged with reddish, opaque. Front yellow, with the middle stripe broad, excavated, and polished, not tapering anteriorly; on each side near the orbit there is a small black dot, and more anteriorly a second larger one between the antennæ and the anterior corner of the eye. Antennæ yellow, with the third joint a little longer than the second, but little excised on the upper side, not much pointed. Antennal bristle with the base only yellow and covered with a close white pubescence. Face white, rather considerably receding. Upper side of the thorax dusted with whitish on the lateral borders; in the middle, there are two complete longitudinal stripes, formed of whitish dust and bordered with brownish streaks, which are not quite distinct and interrupted in the middle of the thorax. Superior part of the pleuræ with a brownish-red longitudinal stripe continued to beneath the poisers. Scutellum yellowish. Abdomen unicolorous, having no trace of darker stripes in the described specimen. Legs whitish-yellow, not distinctly blackened at the end of the tarsi; under side of the posterior femora with small short bristles. Surface of the wings a little yellowish, with the stigma and a margin of the costal border black; this margin runs from the stigma as far as the fourth longitudinal vein, being very narrow as far as the tip of the second longitudinal vein, and then broader; there are about six or seven small clear spots on the anterior side of the second longitudinal vein; the remainder of the coarse reticulation is little connected, and formed of rather sparse small blackish spots; the small transverse vein is a little before the middle of the discal cell; the posterior transverse vein is distinguished by its being perfectly straight and perpendicular.

Hab. Illinois. (Osten-Sacken.)

10. T. saratogensis Fitch. ♂ and ♀.—Seta antennarum albo-plumata; thorax vittatus; alæ confertim striato-reticulatæ margine antico late fusco-limbato, venâ transversâ posteriore flexuosâ.

Bristle of the antennæ plumose with white, thorax striped, wings striped with gray and reticulated with darker dots, costal border having a broad, blackish-brown margin, posterior transverse vein undulating. Long. corp. 0.2—0.22. Long. al. 0.18—0.20.

Syn. *Tetanocera saratogensis* Fitch, Report I, 68.—Loew, Wien. Ent. Monatsch. III, 296.

This species, which is readily distinguished from all the N. A. species known to me by the costal border of its wings having a broad blackish-brown margin reaching as far as the second longitudinal vein, has been accurately described by Dr. A. Fitch in the above quoted place. It strikingly resembles the European *Tet. pratorum* Fall. After examining a great number of specimens of the two species, I found it impossible to discover any constant difference in their structure; but the brownish-black color of the costal border of the wings as well as the spots along the longitudinal veins in all the N. A. specimens reach farther towards the base of the wing than is the case in any European one, besides, in the former, the color of the club-like male genitals is very dark, whereas in the latter it is much lighter and almost yellowish. Whether the two hoary stripes of the thorax really are more distant in *Tet. saratogensis*, as they seem to be, I dare not pronounce with certainty, since some specimens from Northern Europe approach in this respect the American ones. Moreover the space between those stripes in N. A. specimens as well as in European ones, is sometimes altogether yellow, sometimes bordered with distinct brown longitudinal lines, sometimes entirely brown.

Hab. Middle States. (Osten-Sacken.)

Mr. Loew referring to Dr. Fitch's description, without giving one of his own, I reproduce the former here.—O. S.

The head above is golden yellow with two small rusty stripes on its fore part, a black spot at base and dot each side anteriorly, almost in contact with the eye, and a second one, also black, on the anterior margin, between the eye and the antennæ. Face silvery white. Antennæ light yellow, second joint longer than broad, with fine short black bristles along its upper and under edge; third joint tinged with brown, narrow and curved, its upper side being concave, its lower side convex, and nearly parallel with the upper side, but slightly narrowed towards the apex, which is rounded; seta yellowish white, plumose. Thorax pale dull yellow, with a faint darker stripe each side of the middle, which stripes have an ash gray reflection when viewed from the front; clothed with a short black beard and a few long black bristles. Scutel ash gray with two nearly erect black bristles each side. Poisers yellowish white. Abdomen dusky, clothed with a short black beard, hind edges of the segments pale dull yellow. Legs pale yellow, with a fine black beard, and the spine-like bristles at the end of the shanks black. Wings iridescent, smoky brown on the outer and apical margins, hyaline towards the axilla, the space between divided into numerous square hyaline spots by dusky longitudinal stripes, one stripe being placed in the middle of each cell and sending short transverse branches to the veins at regular intervals; veins and veinlets black.

11. T. plebeja Loew. ♂ and ♀.—Seta antennarum nigro-plumosa; alæ non reticulatæ, venâ transversâ posteriore modice arcuatâ, subperpendiculari.

Bristle of the antennæ plumose with black, wings not reticulated, with the posterior transverse vein moderately arcuated and nearly perpendicular. Long. corp. 0.28—0.29. Long. al. 0.3.

Very allied and similar to the following species, but certainly different. Acorn-colored. Front yellow; the usual black spot near the orbit totally wanting. The excavated polished middle stripe of the front is not enlarged anteriorly; the polished lateral stripes are very broad and glossy, yet do not extend far beyond the middle of the front. Antennæ dark yellow, the third joint a little longer than the second, rather distinctly excised on its upper side; antennal bristle black with long and very close black hairs. Face considerably retreating, yellowish with white reflection. Upper side of the thorax, scutellum and pleuræ quite as in the following species. Abdomen brownish-yellow without darker middle line nor lateral stripes in the pair I have before me; but in well colored specimens they may exist. Legs as in *Tet. plumosa.* Wings brownish-yellow margined with blackish-brown on the whole of the costal border, beginning at the base of the stigma and being extended at the apex to a little beyond the tip of the fourth longitudinal vein; there are besides grayish stripes between the longitudinal veins; the transverse veins are margined with dark brownish-black; the small transverse vein is in the middle of the discal cell; the posterior transverse vein is distinctly curved, but not in the shape of an S, and has a rather steep position.

Hab. Middle States. (Osten-Sacken.)

Observation 1.—This species is very similar to the European *Tet. elata* Fabr., but differs by its posterior transverse vein, which, although more arcuated, has a steeper position, by its antennæ being a little broader and the black hair of its antennal bristle being much closer.

Observation 2.—From *Tet. plumosa* this species not only differs by the form and situation of the posterior transverse vein, but particularly by the considerable breadth of the polished lateral stripes of the front, which in *Tetanocera plumosa* are exceedingly narrow.

12. T. plumosa Loew. ♂ and ♀.—Seta antennarum nigro-plumosa; alæ non reticulatæ, venâ transversâ posteriore biflexâ et valde obliquâ.

Bristle of the antennæ plumose with black, wings not reticulated, with the posterior transverse vein biarcuated and very oblique. Long. corp. 0.31—0.39. Long. al. 0.28—0.35.

Syn. *Tetanocera vicina* Macquart, Dipt. exot. II, 3, 180, Tab. XXIV, fig. 7.
Tetanocera plumosa Loew, Stett. Ent. Zeit. VIII, 201.—Loew, Wien. Ent. Zeit. III, 296.
Tetanocera struthio Walker, List of Dipt. IV, 1086.

A species of the relationship of *Tet. arrogans, elata,* etc. Acorn-colored. Front yellow, with a small brown dot instead of the ordinary lateral black spots on each orbit; the excavated polished middle stripe of the front being of middle breadth, and but little enlarged anteriorly; the polished lateral stripes very narrow and obsolete. Antennæ dark yellow; the third joint as long as the second, rather distinctly excised on its upper side; antennal bristle black with long and very close black hairs. Face rather receding, yellowish with white reflection. Upper side of the thorax with the lateral border broad, dusted with white and the three central longitudinal stripes likewise covered with whitish dust and leaving between them two complete narrow reddish-ferruginous stripes which unite on the hind border of the thorax and run over the scutellum.

Pleuræ with a narrow ferruginous longitudinal stripe on the superior border. Abdomen acorn-colored, with a darker middle stripe interrupted at the incisions. Legs brownish-yellow, tibiæ usually a little darker than the femora, tarsi blackened towards the tips. Wings brownish-yellow, margined with blackish-brown on the whole of the costal border, beginning from the base of the stigma and ending a little beyond the tip of the fourth longitudinal vein; moreover, there are usually dark gray stripes between the longitudinal veins; the transverse veins are margined with dark brownish-black; the small transverse vein is placed a little before the middle of the discal cell; the posterior transverse vein is very arcuated in the shape of an S, and has a very oblique position; in most specimens the fourth longitudinal vein has some small stumps, most of which are emitted from its inner side, each being inclosed in a dot-like brownish-black cloud. Such specimens resemble very much the European *Tet. aratoria* Fabr.

Hab. Sitka. Middle States. (Osten-Sacken.)

Observation.—The name of *Tet. vicina* is preoccupied by R. Desvoidy.

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13. T. triangularis Loew. ♀. (Translated from Berlin. Entom. Zeitsch. 1861, p. 344, by B. Osten-Sacken.)—Glandicolor, thorace bilineato, frontis opacæ vittulis lateralibus lævigatis, subobsoletis, fossulâ mediâ distinctâ, non dilatata, subtriangulâ, antennarum setâ pilis longis, rarioribus, nigris plumatâ, alis lutescentibus, unicoloribus, venis transversis fusco-limbatis, posteriore subrectâ.

Acorn-colored, thorax with two lines, front opaque, its lateral stripes shining, almost obsolete, the furrow in the middle distinct, not dilated, subtriangular, antennal bristle with long, rare, black hairs, wings lutescent, unicolorous, transverse veins margined with fuscous, the posterior one almost straight. Long. corp. 0.26—0.27. Long. al. 0.27.

Occiput yellow, with a large shining-white spot. Front bright yellow, entirely opaque, the ordinary lateral stripes shining, narrow, almost obsolete; the furrow in the middle distinct, shining, not dilated, very shortened, subtriangular. Antennæ rather short, ochraceous, last joint a little longer than the two preceding taken together, ferruginous at the tip, bristle with long but rather rare, black hairs. Face shining-white, immaculate. Thorax above with two darker, very approximated, lines. Abdomen unicolored.

Legs luteous, three last joints of the fore tarsi, one of the intermediate ones, and two of the hind ones, blackish; hind femora of the male beset below with black bristles. Wings lutescent, unicolorous, fore and apical border not clouded, transverse veins margined with brown, the posterior one almost straight.

Hab. North Red River. English River. (R. Kennicott.)

Observation.—Very like *Tet. sylvatica* Meig., but still nearer allied to *Tet. unicolor* Loew, distinct from the former by the frontal furrow, which is very much abbreviated here and by the anterior margin which is not shining; from the latter, which it also exceeds in size, by the striped thorax, and the narrower and less obsolete frontal furrow.

14. T. rotundicornis Loew. ♂ and ♀. (Translated from the Berlin. Entom. Zeitschr. 1861, p. 344, by B. Osten-Sacken.)—Ex helvo glandicolor, frontis opacæ vittulis lateralibus ordinariis sublævigatis, distinctis, fossulâ mediâ æquali usque ad anteriorem frontis marginem productâ, antennarum articulo tertio ovato, superius non exciso, setâ pilis nigris longis, sed raris plumatâ, alis lutescentibus, costæ dimidio secundo et apice anguste fuscis, venis transversis fusco-limbatis, posteriore subrectâ.

Pale yellowish acorn-colored, the ordinary lateral stripes of the opaque front rather shining, distinct, the intermediate furrow equal, extended to the anterior margin of the front, third joint of the antennæ ovate, not excised superiorly, bristle with long black, but rare, hairs, wings lutescent, the posterior half of the costa and the apex with a narrow brownish cloud, transverse veins clouded with brownish, the posterior one almost straight. Long. corp. 0.26. Long. al. 0.22—0.26.

Occiput yellow, with a heart-shaped shining-white spot. Front bright yellow, opaque, the ordinary lateral stripes shining, rather broad, the intermediate furrow shining, of equal breadth, entire. Antennæ short, ochraceous, third joint ovate, not excised superiorly, the bristle with long, black, but sparse hair. Thorax above with four darker lines, the intermediate ones entire, the lateral ones interrupted, not seldom all four obsolete. Abdomen unicolorous with a rather obscure lateral vitta, which is generally obsolete in the male. Legs luteous, last joints of the tarsi black, hind femora of the male beset below with black spines. Wings lutescent, the posterior half of the costal border with a paler, the apical border with a more saturated infuscation, transverse veins clouded with fuscous, the posterior one nearly straight and perpendicular.

Hab. North Red River. English River. (Robt. Kennicott.)

Observation.—Stumps of veins proceed sometimes from the posterior side of the fourth longitudinal vein.

Gen. III. **SEPEDON** Latr.

All the described species of the genus Sepedon agree much in their structure and are very readily and sharply distinguished from those species of *Tetanocera* which approach them in the whole structure of the body, as, for instance, *Tet. obliterata* Fall. and *gracilis* Loew. The most striking difference consists in the form of the heads with the protuberant eyes, the excavated front and in the second antennal joint being very much prolonged and attenuated. Among the four N. A. species known to me three fully agree as to these characters with the described species, but the fourth considerably differs from them by having the second antennal joint, though much prolonged, not attenuated, but broad as in the species of the genus *Tetanocera,* while its head is in every respect that of a *Sepedon,* so that, if we will not form a new genus for it, it cannot by any means be placed in *Tetanocera;* I consider it as the type of a new group of *Sepedon.*

Synopsis of the Species.

1	Second joint of the antennæ broad.	1 **fuscipennis** Loew.
	Second joint of the antennæ narrow.	2
2	Hind femora slender and very much prolonged, with a brown ring before the tip.	2 **macropus** Walk.
	Hind femora rather much thickened, with no brown ring before the tip.	3
3	Under side of the hind femora in the male with a deep excision and two teeth.	3 **armipes** Loew.
	Hind femora of both sexes simple.	4 **pusillus** Loew.

1. S. fuscipennis Loew. ♂ and ♀.—Rufo-brunneus, secundo antennarum articulo lato.

Chestnut-brown, second joint of the antennæ broad. Long. corp. 0.26—0.27. Long. al. 0.27.

Syn. *Sepedon fuscipennis* Loew, Wien. Ent. Monatsch. III, 299.

Of a rather dark chestnut color. Head a little paler. Front with a very wide excavation and an oblong black spot on each side near the orbit, and a deep black dot-like one below each antenna and a little removed from the orbit. Antennæ of the color of the head; the second joint, although elongated as in the other species of *Sepedon*, is broad as in *Tetanocera* and with black hairs; the third joint a little darker, rather acutely ovate, blackish at the tip. Antennal bristle white at the tip, and with a white pubescence, its two first joints and the base of the third being black. Upper side of the thorax in well-preserved specimens with a brown longitudinal stripe on each side; its middle is fine whitish hoary, and marked with four darker lines not quite reaching the hind border of the thorax, the innermost being by far more distinct. The scutellum, too, the greatest portion of the pleuræ and the coxæ are whitish hoary. Abdomen rather glossy, with a very slight vestige of whitish hoar. Legs pale chestnut-brown, hind femora with the apical half darker, and the greatest part of the under side beset with rather scattered black spine-like bristles; the anterior and posterior tibiæ at the tips and the tarsi blackish, the middle tarsi chestnut-brown at the base. The very delicate black hairs on the upper side of the posterior tibiæ are much longer in the male than in the female, and in general longer than usual in the species of this genus. Wings clouded with dark smoky brown, more yellowish-brown towards the costal border; the transverse veins with narrow blackish margins; the posterior transverse vein is considerably arcuated and has a very oblique position.

Hab. Middle States. (Osten-Sacken.)

2. S. macropus Walk. ♂.—Testaceus, antennarum articulo secundo tenui, femoribus posticis longissimis, gracilibus, fusco-annulatis.

Yellowish-red, second antennal joint narrow, posterior femora very long, slender, and marked with a brown ring. Long. corp. 0.3. Long. al. 0.35 lin.

Syn. *Sepedon macropus* Walker, List Dipt. IV, 1078.

Yellowish-red, with the inferior portion of the pleuræ as well as the hips having a bright white reflection. Front without lateral spots. Face glossy; below each antenna is a black spot distant from the orbit and surrounded with a white reflection on the polished face; another spot with bright white reflection runs from the under side of the eyes down the cheeks. Antennæ yellowish-brown; the second joint is slender and dark brown towards the tip; the third joint blackish with the antennal bristle beset with a very short pubescence. Thorax with a rather distinct reddish ferruginous middle stripe continuing over the scutellum (it may be more marked in better preserved specimens). The abdominal segments each with a browner margin of the hind border. Legs very elongated with very short spine-like hairs; the bristles on the under side of the very long, straight, not thickened hind femora are likewise very short; the hind tibiæ slender and almost straight. Color of the legs brownish-yellow, the tips of all femora being brown and the posterior femora having besides a brown ring on their last third; the anterior and middle tibiæ have only brown tips; the posterior tibiæ are quite brown with a very broad brownish-yellow ring before the tip; middle tarsi yellowish-brown, more blackish-brown towards the tip; hind tarsi quite dark brown. Wings clouded with brown; posterior transverse vein slightly curved, not very steep. This description has been taken from a rather old specimen.

Hab. Jamaica; (Walker.) Cuba; (Poey.)

3. S. armipes Loew. ♂ and ♀.—Brunneus, antennarum articulo secundo tenui, femoribus posticis incrassatis, in mare subtus profunde excisis et prope basim bidentatis.

Brown, second antennal joint slender, hind femora thickened, in the male with a deep excision on the under side and two teeth near the base. Long. corp. 0.18. Long. al. 0.18.

Syn. *Sepedon armipes* Loew, Wien. Ent. Monatsch. III, 298.

Not dissimilar to *Sep. spinipes*, but darker and somewhat smaller. Head pale yellowish, with the front and upper part of the occiput brown, the former having a black spot on each side near the orbit and a black dot below each antenna a little removed from the orbit. The two first joints of the antennæ brownish-yellow, the second attenuated as in most species of this genus; the third more or less lanceolate, black with the base only yellow. The first and second joints of the antennal bristle dark yellow, the third with the base blackish, the remainder being white with very short white pubescence. Upper side of the thorax finely hoary in the middle, on which some dark longitudinal lines are visible. Pleuræ dusted with white. Abdomen rather glossy, pale chestnut-brown or almost yellowish-red at the tip. Legs brownish-yellow, the femora paler, especially towards the base; the hind femora are somewhat spotted with brown at the tip; their under side has a rather deep excision, and immediately before this excision a coarse, almost two-headed, hook, and farther to the base a smaller obtuse tooth, the space between the excision and the tip being beset with short black bristles. The femora of the female are simple. The posterior tibiæ of the male are much arcuated at the beginning of their last third, the two first thirds being almost quite straight; the tibiæ of the female are of a very similar structure, but not quite so much curved, by which character it is most readily distinguished from the female of *Sepedon pusillus*, the posterior tibiæ of which have a slighter and much more uniform arcuation. The anterior tibiæ are gradually blackened towards the tip, and also the anterior tarsi are rather black, the second and third joints only being paler than the rest; the middle tibiæ show no trace of black, but the tips of the middle tarsi are blackish as well as those of the hind tarsi. Wings smoky gray, more yellowish-brown on the costal border; the transverse veins with narrow black clouds; the posterior transverse vein is but little curved, and rather steep.

Hab. Middle States. (Osten-Sacken.)

4. S. pusillus Loew. ♂ and ♀.—Brunneus, antennarum articulo secundo tenui, femoribus posticis incrassatis, in utroque sexu simplicibus.

Brown, second antennal joint slender, femora thickened, simple in both sexes. Long. corp. 0.18. Long. al. 0.18.

Syn. *Sepedon pusillus* Loew, Wien. Ent. Monatsch. III, 299.

So very similar to the preceding species that a short enumeration of its differences will be sufficient to characterize it. The male is most readily distinguished from that of *Sep. armipes* by its hind femora being simple. The females of the two species are rather more difficult to separate; the most certain difference is given in the form of the hind tibiæ, which in *Sep. pusillus* are slightly and uniformly bent in their whole length, whereas in the female of *Sep. armipes* the arcuation is not only more considerable, but also affects chiefly the last third. All other differences are either uncertain or trifling; namely, the structure of the third joint of the antennæ does not afford any available character for distinguishing the two species, in opposition to what I was inclined to suppose when I had only a few specimens of both of them.

Hab. Middle States. (Osten-Sacken.)

Observation.—The genera *Actora* and *Dryomyza*, differing in some characters from the true *Sciomyzidæ*, are not comprised in the above exposition. I have not seen the N. A. *Actora*, published by Mr. Walker as *Actora ferruginea.* The two N. A. species of *Dryomyza* I know, fall both into that section which is characterized by a hairy third longitudinal vein; the first is, as it seems, identical with the European *Dryomyza anilis* Fall.; the second, though resembling in its colors *Dryomyza flaveola* Fabr., may easily be identified by the subjoined description.

Dryomyza simplex Loew.—Pallide flava, nitens, fronte et antennis saturate flavis, opacis; alæ cinereo-hyalinæ, venâ longitudinali tertiâ pilis longis vestitâ. Long. corp. 0.28. Long. al. 0.31.

Polished, pale yellow. Front deeper yellow, opaque, with the short pubescence and the bristles black. Antennæ concolorous with the front; antennal bristle with rather long and black hairs. Wings limpid, with a distinct yellowish-gray tinge; the third longitudinal vein beset with long hairs; the posterior transverse vein obsoletely clouded with grayish, the small transverse vein not clouded.

Hab. Middle States. (Osten-Sacken.)

IV.

ON THE NORTH AMERICAN EPHYDRINIDAE.

The family of *Ephydrinidæ* is taken here altogether in the extent which was given to it by Stenhammar, the diligent monographer of the Swedish species, and by Walker in his work on the British Diptera, the latter founded on Haliday's valuable observations.

The characters easily distinguishing the *Ephydrinidæ* from all the other families of *Diptera acalyptera* may be set down as follows: Face more or less, often considerably convex; either without any impression at all beneath the antennæ, or moderately impressed, but never provided with membranous antennal furrows. Antennæ short, first joint small; antennal bristle either nearly bare, or pubescent, or pectinated on the upper side only. Oral cavity rounded, in most of the genera of considerable size; clypeus distinct, in some genera retracted in the oral cavity, in the remaining genera prominent over the oral margin, in some of them of a rather large size; palpi small; mentum short, more or less incrassated. Thorax rather quadrangular; scutellum proportionately large. Abdomen of very variable form, consisting of six segments in the males; the females have one short, and generally not distinctly visible, segment more. The sixth segment being always small and generally much concealed under the fifth, the structural relations depend on the conformation of the five first segments; of these the first is often much shortened and sometimes nearly connate with the second, a circumstance which has led authors to omit it in the enumeration or to count the two first segments for one; this is to be borne in mind in order to understand their descriptions; in mine, I have always counted the first segment as distinct, however difficult it may be to observe it. The fifth segment is also of very variable structure, generally nearly equalling the foregoing in size, rarely considerably longer in both sexes or in the males, still more seldom much smaller, in which case the fourth segment, especially in the males, is longer than usual. The hypopygium of the male, which attains a considerable size in some species only, is turned down, and generally, together with the small sixth segment, encompassed by the lateral border of the fifth abdominal segment bending down over it. The anal extremity of the female, except in a few species, is entirely retracted; for this reason, the sexual difference of many species is somewhat difficult to ascertain on examining single dry specimens. Wings on their whole surface covered with microscopical hair; the costal vein consists of three parts, the first of which reaches from the base to a little beyond the transverse humeral vein, which, quite in its neighborhood, runs over to the costa; the second from thence to the tip of the first longitudinal vein, where the third begins. These three parts of the costal vein are not to be confounded with the three segments of the costal vein so frequently used in characterizing the species; the latter are reckoned from the base of the wing to the tip of the first longitudinal vein, from thence to the tip of the second longitudinal vein, and from this to the tip of the third longitudinal vein. The auxiliary vein is distinct only at its very base and then coalesces with the first longitudinal vein; the second basal cell, *i. e.* the anterior of the two small basal cells, unites with the discoidal cell, the ordinary separating vein disappearing, so that the discoidal cell apparently reaches very far towards the base of the wings; it is not at all unusual, that on a closer examination a rudiment of the obliterated transverse vein may be seen; the posterior of the two small basal cells or anal cell is generally imperfect and very small. Alulæ small. Legs slightly bristled; in some genera the species have some longer bristles on the upper side of the intermediate tibiæ, which in all genera are provided with spurs.

Most of the species, if not all, live in the neighborhood of water or in moist places. I have observed many years ago, that the food of several species chiefly consists of Infusoria. The larvæ of those European species, the metamorphosis of which is known, live, at least by far most of them, in water, some exclusively in water which is very decidedly salt; two of them are leaf-miners.

General division of the Ephydrinidae.

In order to facilitate the determination of the already numerous genera of *Ephydrinidæ* it will be useful to subdivide this family in several sections, which may be done as follows:—

1 Second joint of the antennæ unguiculated at the end, or at least, the upper side of the intermediate tibiæ beset with a few strong bristles. . I. Notiphilina.
Second joint of the antennæ not unguiculated, the intermediate tibiæ never have long bristles on the upper side. . 2

2 Eyes hairy, oral cavity never of considerable size, anterior femora never incrassated. . II. Hydrellina.
Eyes naked, oral cavity generally very large. III. Ephydrina.

The second joint of the antennæ is called unguiculated (*unguiculatum*) if it bears on its end a bristle directed forward, whether it be thickened and long, or thin and short. In the latter case it is often difficult to perceive, particularly in the genera *Paralimna* and *Corythophora*, which in the whole structure of their heads approach very much some genera of *Ephydrina;* yet the presence of several long bristles on the upper side of the intermediate tibiæ and the color and markings of their abdomens point out too evidently their relation to the species of the widely spread genus *Notiphila*, to be overlooked. The hairy eyes will be sufficient in general to enable us to recognize the *Hydrellina;* in those genera, the species of which have densely pilose eyes, the hairs are often exceedingly short; but their presence even then is easily known by the whitish reflection shown by the outline of the eyes. In the genera with scattered hairs on the eyes there are some species in which it is very difficult to perceive the single small hairs; in order to distinguish them with certainty from the *Ephydrina*, it is to be borne in mind that in the latter the eyes are much more rounded, that their faces are narrowest just where the antennæ are inserted, and considerably increase in breadth immediately below, whereas the *Hydrellina* have always more oblong eyes, and their faces have their least breadth beneath the antennæ; the oral cavity also is never so strikingly wide as in most genera of *Ephydrina;* moreover the clypeus in those species of *Hydrellina* which, on account of the indistinctness of the pubescence of the eyes, might be taken for *Ephydrina*, is very little developed.

I. NOTIPHILINA.

The second joint of the antennæ distinctly unguiculated, or the presence of some long bristles on the upper side of the intermediate tibiæ will refer any species to the present section, the genera of which have, without exception, an antennal bristle with long pectinations on the upper side.

Division 1. The costal vein reaches to the third longitudinal vein.

1 Abdominal extremity of the male with elongated bristles. DICHAETA *Meig.*
Abdominal extremity of the male without elongated bristles. NOTIPHILA *Fall.*

Division 2. The costal vein reaches to the fourth longitudinal vein.

1 Upper side of the intermediate tibiæ with some long bristles. 2
Upper side of the intermediate tibiæ without long bristles. 3

2 Wings with a costal spine, posterior transverse vein perpendicular, legs not prolonged, clypeus very prominent. PARALIMNA *Loew.*
Wings without costal spine, posterior transverse vein oblique, legs prolonged, clypeus hardly projecting beyond the oral margin. CORYTHOPHORA *Loew.*

3 Abdomen sharply edged, apparently three-jointed in both sexes on account of the minuteness of the first and fifth segments. TRIMERINA *Macq.*
Abdomen not sharply edged, fifth segment not so strikingly shortened, or only so in the males. 4

4 Abdomen broad. DISCOMYZA *Meig.*
Abdomen not broad. 5

5 Superior half of the face not carinated, third joint of the antennæ more or less oblong. PSILOPA *Fall.*
Superior half of the face distinctly carinated. 6

6 Eyes oblong, cheeks not descending much beneath the eyes. DISCOCERINA *Macq.*
Eyes rounded, cheeks descending very much beneath the eyes. 7

7 Clypeus very prominent beyond the oral margin. ATHYROGLOSSA *Loew.*
Clypeus projecting very little beyond the oral margin. HECAMEDE *Hal.*

Of the enumerated genera I know *Dichæta*, *Notiphila*, *Paralimna*, *Discomyza*, *Psilopa*, and *Discocerina* as occurring in North America.

Gen. I. **DICHAETA** MEIG.

This genus is closely related to the genus *Notiphila*. Both are distinguished by the remarkable stout spine of the second joint of the antennæ; the face is perpendicular and only moderately convex, the clypeus small and scarcely prominent beyond the border of the mouth; moreover, in both, the intermediate tibiæ are beset on the upper side with some long and stout bristles, and the thickened costal vein terminates already at the tip of the third longitudinal vein. The characters distinguishing both genera from each other are as follows: The species of *Dichæta* have longer and stouter bristles; the mystacidal bristles on the side of their face there are less numerous, but much longer and stouter; moreover, in the males of *Dichæta* the penultimate segment of the abdomen, on its posterior edge, is provided with a transverse row of very long bristles, and on the tip of the last segment, above the anal opening, there are two bristles inserted near each other and curved upwards, which is never the case in *Notiphila.*

Only two European species of *Dichæta* were hitherto known. The two species occurring in North America are identical with them.

Synopsis of the Species.

1 { Last segment of the abdomen in the male prolonged in a conical point. 1 **caudata** *Fall.*
Last segment of the abdomen in the male not prolonged in a conical point. 2 **brevicauda** *Loew.*

1. D. caudata Fall. ♂ and ♀.—Nigricans, segmento abdominali penultimo in mare setis decem elongatis armato segmentoque ultimo in conum producto.

Blackish, the penultimate segment of the male abdomen with ten long bristles, the last segment conically prolonged. Long. corp. 0.17. Long. al. 0.17.

This well known species is distinguished from the following by its somewhat larger size, the greater number and the length of the bristles on the posterior border of the penultimate segment of the male abdomen, the conical prolongation of its last segment, and the much greater length of the two stout bristles inserted on the tip of this prolongation.

Hab. Middle States. (Osten-Sacken.)

Note.—A detailed description of this species is to be found in Meigen, Zweifl. VI, p. 62.—O. S.

2. D. brevicauda Loew. ♂.—Nigricans, segmento abdominali penultimo in mare setis sex elongatis armato segmentoque ultimo breviter acuminato.

Blackish, the penultimate segment of the male abdomen with six long bristles on the posterior border, the last segment but little pointed. Long. corp. 0.16. Long. al. 0.16.

The differences pointed out in the description of the foregoing species will be sufficient to distinguish this. The greater part of the tarsi is dull red, as in *Dich. caudata,* but generally somewhat paler.

Hab. Middle States. (Osten-Sacken.)

Note.—This species has been described for the first time by Mr. Loew in 1860 in his paper: *Die Europæischen Ephydriniden* (in Loew's *Neue Beiträege*, VII, p. 5).—O. S.

Gen. II. **NOTIPHILA** Fall.

The characters of this genus result from what has been said about *Dichæta.* Those which distinguish it most easily from the following genera are the intermediate tibiæ being provided on the upper side with single long bristles, and the thickened costal vein terminating at the tip of the third longitudinal vein.

We need scarcely mention that but few of the species described by the older authors as *Notiphilæ,* belong to it, in the restricted sense necessary here. Taken in this sense, about sixteen European species have to be referred to it, some of which, however, are not yet duly established. In North America it seems to be represented by numerous species which, compared to those of Europe, show nothing heterogeneous in their organization. The same observation may be made with regard to the South African species which occur on the Cape of Good Hope.

Synopsis of the Species.

1	Palpi blackish.	1 **scalaris**, n. sp.
	Palpi yellowish.	2
2	Antennæ quite black.	2 **bella**, n. sp.
	Third joint of the antennæ red at the base.	3
3	Upper side of the thorax with a broad brown lateral stripe.	3 **vittata**, n. sp.
	Upper side of the thorax without broad brown lateral stripe.	4
4	Abdomen with irregular brownish-black semifasciæ, each formed of two spots.	4 **carinata**, n. sp.
	Abdomen with two brown spots on each of the intermediate segments.	5 **unicolor**, n. sp.

1. N. scalaris Loew. ♂ and ♀.—Obscure cinerea, facie angustâ fulvescente, antennis palpisque nigris, abdomine fasciis nigris, lineâ longitudinali cinereâ interruptis picto, pedibus nigris, genibus tarsisque posticis testaceis, tarsis anticis testaceo-annulatis.

Dark ashy-gray, the small face yellow, antennæ and palpi blackish; abdomen with two transverse fasciæ, interrupted by a gray middle line;

legs blackish, knees and hind tarsi yellowish, anterior tarsi annulated with yellowish. Long. corp. 0.13. Long. al. 0.16.

Very much resembling *Notiph. uliginosa* Hal. (which is identical with *Notiph. tarsata* Stenh.), but its narrower face distinguishes it from that and all the related European species. Palpi blackish. Antennæ entirely black; front with yellowish-brown on black ground. The same is the case with the upper side of the thorax, which has no broad longitudinal stripes, but only a faint trace, often indistinct, of five fine, brown longitudinal lines. The scutellum is colored as the upper side of the thorax, but generally with a rather lighter gray border and longitudinal line. Abdomen gray, with broad brownish-black fasciæ occupying more than the anterior half of each segment, and being interrupted by a gray middle stripe; the last segment in the male is almost entirely black, and has a gray middle stripe on its anterior half. Femora and tibiæ black; the knees and the extreme tips of the tibiæ brownish-yellow; the fore tarsi black, having the innermost base of each joint yellowish; the posterior tarsi yellowish, with the tip brownish. Wings pellucid brownish-gray, with brown veins; the second segment of the costal vein being nearly twice as long as the third.

Hab. Middle States. (Osten-Sacken.)

2. N. bella Loew. ♂ and ♀.—Cinerea, antennis totis nigris, palpis flavis, vittâ thoracis utrinque laterali, pleurarum superiore, scutellique margine laterali brunneis.

Ashy-gray; antennæ entirely blackish, palpi yellow; a longitudinal stripe on each side of the upper side of the thorax, a longitudinal stripe on the pleuræ, and the lateral edge of the scutellum, brown. Long. corp. 0.14. Long. al. 0.17.

Face yellowish. Eye-rings rather broad. Cheeks descending considerably beneath the eyes. Antennæ entirely blackish. Front gray, viewed sideways rather whitish; the divided black middle stripe is more or less covered with thick light-gray dust, which is sometimes of a yellowish tinge, sometimes more light-gray; near the lateral border [*of the thorax?—O. S.*] there is a broad, well-defined, dark-brown longitudinal stripe. Such a stripe runs on the upper part of the pleuræ from the shoulder to near the base of the wing. The brown color of the lateral border of the scutellum continues on the posterior border of the thorax as a short beginning of a stripe. Abdomen with four rows of long, triangular, blackish-brown spots, the interior of which are a little longer that the exterior ones. Coxæ and femora black, covered with light-gray hoar; the tips of the latter brownish-yellow. Tibiæ and tarsi rather pale brownish-yellow, the hind tibiæ with a broad, the middle and fore tibiæ with a narrow blackish-brown ring, which is sometimes wanting; the last joint of the tarsi brownish. In the male, the middle femora, on the under side, are beset with short, but very thick, black hair, the middle tibiæ on the under side fringed with very close, short, black pubescence. Wings grayish, proportionally long and narrow; veins brown; the second segment of the costa nearly thrice as long as the third.

Hab. Middle States. (Osten-Sacken.)

3. **N. vittata** Loew. ♀.—Fusca, facie laete ochraceâ, antennarum articuli tertii basi sordide rufâ; thoracis vittâ laterali, pleurarum superiore scutellique margine laterali obscure brunneis, abdomine macularum nigrarum seriebus quatuor picto, femoribus nigris, tibiis late nigro-annulatis.

Brown; face bright ochraceous, third joint of the antennæ dull red at the base; a longitudinal stripe on each side of the upper side of the thorax, a longitudinal stripe on the pleuræ and the lateral border of the scutellum dark-brown; abdomen with four rows of black spots; femora black, tibiæ with a broad black ring. Long. corp. 0.16. Long. al. 0.18.

The most robust among the known North American species. Face of middle breadth, rather bright yellow. Palpi yellow. Antennæ black, third joint at its base dull red for a considerable distance. Front, thorax, and scutellum dusted with brown. The upper side of the thorax has on each side, near the lateral border, a broad, well-defined, dark-brown stripe, and, moreover, on its middle, some much less distinct brown longitudinal lines. Pleuræ grayer than the upper side of the thorax, above with a broad, dark-brown, longitudinal stripe, running from the shoulder to the base of the wing, and another incomplete brown longitudinal stripe immediately above the longitudinal suture. Lateral border of the scutellum blackish-brown. Upper side of the abdomen dusted with gray and having four rows of black spots, those of the two interior rows being longer and more triangular, those of the exterior rather shorter and more trapezoidal. Femora black; tibiæ and tarsi yellowish, the former with a broad brownish-black fascia, which, on the anterior tibiæ, leaves only the base and tip free; the tarsi, on account of their hair, appear darker than they really are.

Wings distinctly tinged with brown; veins brown; the second segment of the costal vein scarcely twice as long as the third.

Hab. Middle States. (Osten-Sacken.)

4. N. carinata Loew. ♀.—Cinerea, facie angustâ concolore, antennarum articuli tertii basi rufâ, thoracis dorso scutelloque brunneis, abdomine fasciis interruptis nigro-brunneis, postice emarginatis, picto, pedibus nigris, tibiis tarsisque posterioribus testaceis, tibiis posticis nigro-annulatis.

Ashy-gray, the narrow face ashy-gray; base of the third joint of the antennæ red; upper side of the thorax and scutellum brown; abdomen with interrupted blackish-brown fasciæ, which are emarginated posteriorly; legs black, middle and posterior tibiæ and tarsi brownish-yellow; hind tibiæ with a black ring. Long. corp. 0.13. Long. al. 0.16.

Face gray, rather narrow, indeed remarkably narrower and with a more extended and sharper keel on its upper part than in the similar European species *Notiph. annulipes* Stenh. and *Notiph. dorsata* Stenh. Palpi yellow, antennæ black; the third joint with the basal half yellowish-red. Front, upper side of the thorax, and scutellum, grayish-brown, or even almost brownish-yellow; upper side of the thorax without lines or stripes. Pleuræ ashy-gray, brownish above. Abdomen on the basal half of each segment with two blackish-brown semifasciæ, emarginated posteriorly, which on the last segment dissolve themselves more or less into the two spots composing them. Anterior legs entirely black, only the knees and the extreme tips of the tibiæ being brownish-yellow. Middle and posterior tibiæ and tarsi brownish-yellow; hind tibiæ with a brownish-black band; tips of the tarsi brownish. Wings of a rather dull gray, veins brown; the second segment of the costal vein a little more than twice as long as the third.

Hab. Middle States. (Osten-Sacken.)

5. N. unicolor Loew. ☿.—Flavo-cinerea, facie laetius flavâ, abdominis segmentis duobus intermediis brunneo-bimaculatis, femoribus nigris, genibus, tibiis tarsisque flavo-testaceis, anticis fuscanis.

Yellowish-gray, face of a brighter yellow; the two middle segments of the abdomen each with two brown spots; femora black, knees, tibiæ and tarsi brownish-yellow; the fore ones more brownish. Long. corp. 0.13. Long. al. 0.16.

Entirely yellowish-gray. Face bright yellow, rather broad; cheeks descending beneath the eyes a little more than usual. Palpi dark yellow. Third joint of the antennæ with the basal half reddish-yellow. Thorax without lines or stripes. Abdomen very unicolorous, having only on each of the two middle segments two triangular brown spots of middle size; of the two exterior rows of spots, which generally occur on the abdomens of the *Notiphilæ*, nothing is to be seen here. Femora black, appearing gray in consequence of their being dusted, with yellowish tips. Tibiæ and tarsi brownish-yellow; fore tibiæ towards their tips and fore tarsi brownish on their whole extent; the posterior tarsi only with their last joint brown. The short hair, resembling fringes, on the under side of the middle femora and tibiæ is rather thin. Wings rather sandy-yellowish, particularly at the base, the second segment of the costal vein is a little more than twice as long as the third. This species resembles most the European *Notiph. guttiventris* Stenh., but is easily distinguished from it by its smaller size and more yellow color, by the cheeks descending deeper beneath the eyes and by the much less spotted abdomen.

Gen. III. **PARALIMNA** Loew.

The characters of this genus, of which I hitherto only know South African and North American species, are the following. Structure, colouring, and markings as in *Notiphila*. Eyes much rounded; front and face very broad, the latter slightly convex; eye-rings broad; cheeks descending very deeply beneath the eyes; clypeus prominent; palpi narrow; terminal bristle of the second joint of the antennæ very small and hardly visible; the third joint of the antennæ very distinctly hairy on its upper side and tip; the antennal bristle with long rays. Structure of the thorax, scutellum, and abdomen as in *Notiphila*. Middle tibiæ on their upper side with three long bristles, the first being very near the base, the second immediately before the middle, and the third not far from the end. Wings as in *Notiphila*, only with the exception of the thickened costal vein being extended to the tip of the fourth longitudinal vein.

1. P. appendiculata Loew. ♂ and ♀.—Brunnea, fronte, thorace scutelloque obscurius punctatis; facie fasciisque interruptis abdominis nigri canis; palpis, antennis pedibusque nigris, tarsorum anticorum posticorumque basi rufâ; alis cinereis, venis transversis et venulâ appendiceâ e penultimo venæ quartæ segmento ascendente nigro-limbatis.

Brown, front, thorax and scutellum with darker dots; the face and the interrupted fasciæ of the black abdomen are grayish-white; palpi, antennæ, and tarsi black, the fore and hind tarsi red at the base; wings gray, the transverse veins and an additional veinlet being placed on the anterior side of the penultimate segment of the fourth longitudinal vein, are bordered with black. Long. corp. 0.16—0.18. Long. al. 0.16—0.18.

Face dusted with grayish white, usually with some more brownish spots, sometimes with a more yellowish-gray tinge; it is slightly convex, but not even, eye-rings broad; viewed laterally, they show at their upper end two black spots, united by a white transverse line, which disappear when viewed in other directions. The very projecting clypeus is of the same color as the face. Proboscis thick and black; palpi narrow, rather long and black. Antennæ black, the third joint in certain directions with a whitish-gray reflection; the hair on the upper side and the tip remarkably long. Front brown, anteriorly with some small dots, further back with some nearly black spots. Thorax and scutellum brownish, with numerous close, small, dark-brown dots; pleuræ also dotted. Abdomen brownish-black, rather opaque, on the posterior border of each segment with a whitish-gray, very opaque fascia, a little widened on its middle, and intersected by a brownish-black middle stripe. The two halves of the gray fascia of the second segment are sometimes connected on their posterior margins; the fifth abdominal segment of the male is a little longer than the preceding. Legs entirely black, the fifth joint of the fore and hind tarsi clothed with shining felt of a bright reddish-yellow; the first joint of the fore tarsi at its base, and the first joint of the hind tarsi almost to its tip, are usually red; paler specimens have also the first joint of the middle tarsi red; in darker ones the first joint of the anterior tarsi is entirely black. Wings gray, veins brown; the second half of the costal vein, the end of the third longitudinal vein, and nearly the whole fourth and fifth longitudinal veins, rather black; the transverse veins and a small stump, emitted by the fourth longitudinal vein about the middle of its penultimate segment, black and narrowly bordered with black; the second segment of the costal vein more than twice as long as the third.

Hab. Middle States. (Osten-Sacken.) Georgia.

Gen. IV. DISCOMYZA Meig.

The characters of this genus are as follows. Head more or less orbicular, with very sharp borders of the vertex; second joint of the antennæ unguiculated, the third oblong, with long pectinations of the terminal bristle. Face not keeled, rather convex, receding again towards the edge of the mouth, uneven, on the sides with coarse warts and wrinkled. Clypeus entirely concealed. Abdomen flat, broad, on account of the shortening of the first segment apparently consisting of four rather equally broad segments. Wings proportionately broad, third and fourth longitudinal veins parallel at their ends.

There were only two species hitherto known; the following North American species deviates a little by its head not being so strikingly orbicular, and by its abdomen not being so broad, but more flattened.

1. D. balioptera Loew. ♂.—Nigra, thorace punctulato, antennis genibusque rufis, tarsis posterioribus flavescentibus, alis fusco-maculatis.

Black, with dotted thorax; antennæ and knees yellowish-red, middle and posterior tarsi yellowish; wings dotted with brownish-black. Long. corp. 0.15. Long. al. 0.14.

Head shining black, really not so orbicular as in *Discom. incurva*, but the vertical border likewise very sharp. Front anteriorly with two rather flat depressions, placed near each other; the more shining lateral border of the front rather wrinkled. Antennæ yellowish-red, the upper border of the second and third joints a little darker; the antennal bristle with long pectinations. The middle of the face narrow and rather transversely wrinkled; its lateral parts with coarse warty wrinkles; the eyes surrounded with a fine white line. The upper side of the thorax and scutellum appear to be dusted with white, but have a rather indistinct, exceedingly fine and close punctuation, leaving only small traces of the white dust. On the pleuræ, where the punctuation is more distinct and much coarser, the whitish dust is more visible. Abdomen black, rather shining, exceedingly flat, narrower than in *Discom. incurva*, the cause of which may be that the upper horny plates of the abdomen are turned down to an unusual extent; the last segment of the abdomen rather smaller than the preceding ones. Legs black, knees yellowish-red; middle band of the posterior tarsi pale yellowish, having the last joint rather blackened. Poisers whitish with darker petiole. Wings short and broad, clouded with grayish; the small transverse vein is below the tip of the first longitudinal vein; the posterior transverse vein rather distant from the margin of the wing and rather oblique; the two last segments of the fourth longitudinal vein of equal length; the second segment of the costal vein less than twice as long as the third; the transverse veins with broad brownish-black borders; a spot of the same color lies between the third and fourth longitudinal veins a little before the posterior transverse vein; a larger spot of the same color lies before it on the costal margin, reaching to the third longitudinal vein and being connected with an equally large, blackish-brown spot on the apex of the wing, which almost attains the fourth longitudinal vein.

Hab. Cuba. (Poey.)

Gen. V. **PSILOPA** Fall.

The characters of the genus *Psilopa* are as follows. Second joint of the antennæ with a stout spine; third oblong, the bristle with long pectinations. Face on its upper part without any keel, slightly convex everywhere, not wrinkled on its sides, receding towards the opening of the mouth. Clypeus either quite concealed or scarcely projecting beyond the oral margin. Middle tibiæ without long bristles on their upper side. The costal vein thickened and attaining the fourth longitudinal vein.

This genus is represented in Europe by about twelve species known with more or less certainty. Its representatives in North America seem to be more numerous; a number of them are distinguished from the European ones by a more robust structure and a more strikingly dusted appearance, and by their faces being not exactly smooth and their cheeks descending a little deeper beneath the eyes; but neither the number of the species of this group hitherto known is large enough, nor are the characters such as to render a generic separation necessary. On the contrary, it will be sufficient for the present, to put these species together as a subdivision of the genus *Psilopa*.

Synopsis of the Species.

Division 1.—Middle of the face slightly convex without any elevation on it.

1	Thorax finely aciculate.	1 **aciculata** nov. sp.
	Thorax polished.	2
2	Posterior part of the thorax and scutellum bronze-colored.	2 **scoriacea** nov. sp.
	The whole body pure black.	3 **atra** nov. sp.

Division 2.—Middle of the face slightly convex with some flat longitudinal impressions.

1	Abdomen black.	4 **umbrosa** nov. sp.
	Abdomen steel-colored.	5 **caeruleiventris** nov. sp.

1. P. aciculata Loew. ♀.—Thorace scutelloque nigris, transverse subtiliter aciculatis, capite abdomineque aut ex cupreo aut ex viridi ænescentibus, antennis flavis, pedibus nigris, tibiarum apice tarsisque flavescentibus, basi alarum sublutescentium nigrâ.

Thorax and scutellum black, transversely with fine scratches; head and abdomen either coppery or greenish brassy; antennæ yellow; legs black, tips of the tibiæ and tarsi yellowish; the rather yellowish wings with the base black. Long. corp. 0.09. Long. al. 0.1.

Antennæ entirely reddish-yellow. Front and face shining, either dull coppery or even almost metallic black, or metallic green. The thorax and the proportionately large scutellum black, hardly brassy, everywhere covered with close and exceedingly fine scratches. Abdomen polished, shining, the color varying in the same way as that of the face. Legs shining black, knees indistinctly yellowish-brown; tips of all the tibiæ yellowish as well as all the tarsi; last joint of the tarsi blackish at its tip only. Poisers brownish-black. Wings rather clay-colored, blackish at the base; this blackening of the costal margin reaches a little beyond the middle of the first segment, on the disk of the wing only as far as the basal transverse veins; towards the posterior margin it extends in such a way, as to occupy half of the corner of the wing lying behind the fifth longitudinal vein, but it becomes at the same time very pale.

Hab. Cuba. (Poey.)

2. P. scoriacea Loew. ♀.—Atra, nitida, colore in posteriore thoracis parte scoriaceo, in scutello obscure æneo, proboscide pedibusque nigris, tarsis posticis fuscis, alis cinereo-hyalinis.

Black, shining; the posterior part of the thorax scoriaceous; scutellum dull brassy; proboscis and legs black, hind tarsi brown; wings grayish-glassy. Long. corp. 0.1. Long. al. 0.13.

Shining black. Head proportionately broad, shining black; above the antennæ with a small, dilated spot dusted with whitish. Face broad, shining black, viewed laterally, more brownish-black; viewed from above it appears as if dusted with white. Antennæ deep black; antennal bristle with long pectinations. Proboscis and palpi perfectly black. Thorax shining black, scoriaceous posteriorly; immediately before and on the flat scutellum the color is more of a dull brassy green. Abdomen shining black, slightly dusted. Legs black; the posterior tarsi appear rather dark brown to the naked eye, viewed through a lens their color is almost dull whitish, the dark appearance being caused by the black hair. Poisers white. Wings grayish glassy; the second segment of the costal vein is not half as long again as the third.

Hab. New York. (Schaum.)

3. P. atra Loew. ♂.—Atra, nitida, proboscide halterumque capitulo albidis, basi tarsorum posticorum rufâ, alis hyalinis.

Shining black, proboscis and knob of the halteres whitish; base of the posterior tarsi red; wings glassy. Long. corp. 0.12. Long. al. 0.16.

Shining black; head broad, front shining black; the small white-dusted spot above the antennæ and the whitish, exceedingly fine dust of the broad, shining black face are scarcely perceptible. Proboscis yellowish-white. The palpi seem to be black. Antennæ black; the bristle with very long pectinations. Abdomen shining, scarcely with a trace of dust, rather narrow and flat, apparently consisting of four segments, the first being very much shortened; even the sixth, however, is perceptible. Legs black; middle and hind tarsi red at the base. Halteres with blackish petiole and white knob. Wings glassy, slightly grayish; the second segment of the costal vein not quite half as long again as the third.

Hab. Middle States. (Osten-Sacken.)

4. P. umbrosa Loew. ♀.—Nigra, fronte, thoracis dorso et scutello polline brunneo-cinereo tectis, facie griseo-pollinosa, antennis tarsorumque basi ex rufo flavis, alis adversus marginem anteriorem nigricantibus, halterum capitulo albo.

Black; front, upper side of the thorax and scutellum dusted with ashy-gray with a fuscous tinge, face dusted with whitish-gray; antennæ and bases of all the tarsi reddish-yellow; wings blackened towards the costa; knob of the poisers white. Long. corp. 0.13. Long. al. 0.14.

Black; front, thorax and scutellum thickly dusted with ashy-gray with a fuscous tinge. Antennæ reddish-yellow; the bristle with scattered pectinations. Face thickly dusted with whitish-gray, rather of uniform breadth, with more numerous bristles on the sides than in most other *Psilopæ*, generally slightly convex, with the lower part a little projecting, but towards the border of the mouth again remarkably receding, rendering thus the opening of the mouth smaller than is usual in this genus. Proboscis and tarsi blackish. Pleuræ brownish-black, shining. Abdomen shining black with very little visible dust. Legs shining black; tarsi reddish-yellow, the three last joints of the foremost, and only the two last of the hindmost ones being black. Poisers with brown petioles and white knob. Wings clouded with grayish-black, becoming gradually black towards the costa; the posterior transverse vein scarcely perceptibly margined with blackish; the second segment of the costal vein more than half as long again as the third.

Hab. Cuba. (Poey.)

5. P. caeruleiventris Loew. ♀.—Capite thoraceque cinereis opacis, abdomine chalybeo nitido, antennis palpisque flavis, pedibus nigris, tarsis posterioribus rufis, alis hyalinis vittâ latissimâ atrâ, margini antico contiguâ, pictis.

Head and thorax opaque ashy-gray, abdomen shining steel-blue; antennæ and palpi yellow; legs black, posterior târsi red; wings hyaline, with an exceedingly broad, deep black longitudinal stripe on the costa. Long. corp. 0.15. Long. al. 0.16.

Front ashy-gray. Antennæ reddish-yellow. Face whitish-gray, slightly convex, with rather slender small bristles on the sides; oral cavity small; clypeus projecting a little beyond the border of the oral margin. Palpi pale yellowish, a little broader than usual. Upper side of the thorax ashy-gray without any gloss. Pleuræ thinly dusted with grayish, and consequently blacker and rather glossy. Scutellum dusted with brown, shining black at the tip. Abdomen shining steel-blue; the first segment but little shortened, the second as long as the first, the three following longer; even the narrow sixth segment is distinctly visible. Legs black, the foremost with dark brown knees; middle and hind tarsi yellowish-red with blackish-brown tip; the fore tarsi have only the base brownish-red. At the costal margin of the wing there is a broad, deep-black band, running from the base to the tip of the third longitudinal vein; its posterior limit runs from the base of the wing along the middle of the discoidal cell to nearly the posterior transverse vein, recedes from it suddenly almost to the third longitudinal vein, follows this vein first at a little, then gradually at a greater distance, and lastly turns to its tip; the posterior part of the wing is rather dull glassy, and almost grayish at the axillary angle; the veins in the latter are brownish, those in the blackish parts of the wing black. The place of this species in the system is very deceptive; for at a superficial view the thickened costal vein seems to reach only the third longitudinal vein; but this deception arises from its color being black as far as the third longitudinal vein, and very pale between this and the fourth.

Hab. Cuba. (Poey.)

Gen. VI. DISCOCERINA Macq.

The second joint of the antennæ has a distinct spine, the third is rounded; the bristle pectinated. The face on its upper part is distinctly keeled, in the middle more or less inflated, receding again towards the border of the mouth. Clypeus projecting very little beyond the border of the mouth or entirely concealed; cheeks moderately descending beneath the eyes. The costal vein attains the fourth longitudinal vein. Upper side of the intermediate tibiæ without stout bristles. *Discocerina* stands between the genera *Psilopa* Fall. and *Hecamede* Hal., being distinguished from *Psilopa* by the more rounded form of the third joint of the antennæ and the keel on the upper part of the face; from *Hecamede* chiefly by the cheeks descending much less beneath the eyes. I can describe only two North American species of this genus, yet four are known to me as occurring in Europe. [Three more species, reproduced below, have been published by Mr. Loew since.—O. S.]

1. D. lacteipennis Loew. ♂.—Cinerascens, opaca, antennis, genibus, tibiarum apice tarsisque flavis, alis albidis, venâ costali atrâ.

Opaque, ashy gray; antennæ, knees, tibiæ at the tips and tarsi yellow; wings whitish with deep black costal vein. Long. corp. 0.11. Long. al. 0.12.

Very similar to the European *Hecamede costata* Loew, but easily distinguished by its cheeks descending much less beneath the eyes. Front with yellowish-gray dust. Antennæ reddish-yellow, the third joint a little infuscated on its apical margin; bristle with a few rays. Face a little more yellowish than the front, distinctly keeled on its upper half, then moderately convex, and receding a little towards the border of the mouth. Eye-rings downwards rather broad; the uppermost of the bristles, inserted near the eye-rings, is more removed towards the middle of the face. Cheeks remarkably descending beneath the eyes for a *Discocerina*. Palpi pale yellowish. Upper side of the thorax and scutellum rather light ashy-gray. Pleuræ more whitish-gray. Abdomen light ashy-gray, appearing, on account of the shortness of the first segment, to consist of four segments, the last of which is at least as long again as the penultimate. Femora and tibiæ black, the former with the extreme tips, the latter with the base and tip yellowish to a greater extent. Tarsi yellowish with blackish tips. Halteres whitish. Wings whitish, especially if viewed in an oblique direction. Costal vein black, the other veins remarkably paler; the second segment of the costal vein is about half as long again as the third.

Hab. Washington. (Osten-Sacken).

2. D. parva Loew. ♀.—Obscure cinerea, opaca, abdomine nigricante; antennis, genibus, tibiarum apice tarsisque flavis, alis cinereo-hyalinis.

Dark ashy gray, opaque, abdomen rather black; antennæ, knees, tibiæ at their tips and tarsi yellow; wings grayish-hyaline. Long. corp. 0.07. Long. al. 0.09.

Though similar to *Discoc. lacteipennis*, it is easily distinguished by its much smaller size, nearly black abdomen and grayish-hyaline wings not showing any trace of whitish color. Antennæ brownish-yellow, second and third joints brownish on the upper margin; bristle with four or five long rays. Face dusted with whitish-gray, very distinctly keeled on its upper half, farther beneath rather convex, and receding a little again towards the border of the mouth; in proportion to the size of the insect, it is narrower than in *Discoc. lacteipennis*. Eye-rings exceedingly narrow, not becoming broader downwards. Among the bristles standing in its neighborhood, the uppermost is a little more advanced towards the middle of the face. Cheeks descending only a little beneath the eyes. Palpi brownish-yellow. Upper side of the thorax and scutellum blackish ashy gray, opaque; the pleuræ likewise. Abdomen grayish-black, opaque, almost pure black and shining towards the end; first segment not strikingly shortened. Femora and tibiæ black; knees, tibiæ at their tips and tarsi yellowish. Halteres white. Wings grayish-hyaline, with blackish-brown veins; the second segment of the costal vein is at least half as long again as the third.

Hab. Washington. (Osten-Sacken.)

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3. D. orbitalis Loew. ♂. (Translated from Berl. Entom. Zeitschr. 1861, p. 354, by R. Osten-Sacken.)—Cinerea, opaca, colore thoracis magis in ochraceum, abdominis in nigrum vergente, antennis rufis, oculorum orbitâ candidâ, alis hyalinis, segmento costali secundo tertii longitudinem modice superante.

Cinereous, opaque, color of the thorax merging in ochraceous, that of the abdomen in black, antennæ rufous, orbit of the eyes shining white, wings hyaline, second costal segment a little longer than the third. Long. corp. 0.065. Long. al. 0.07.

Head obscure cinereous, opaque, orbit of the eyes rather broad, not dilated below the eyes, shining white. Face rather broad, the upper half distinctly keeled, the lower half convex, about six small bristles each side, which are more distant from the orbitæ than is generally the case in this genus. Cheeks moderately narrow. Antennæ rufescent, third joint rather obscure. On the upper side of the thorax and on the scutel the cinereous color merges in ochraceous; pleuræ somewhat hoary. Abdomen darker than the rest of the body, black towards the apex, very slightly glossy. Femora black, hoary, with a whitish pollen; tibiæ and tarsi yellowish, the former with a broad brown ring, the latter with the tip brown. Halteres white. Wings pure hyaline; second segment of the costa a little longer than the third.

Hab. Washington. (Osten-Sacken.)

4. D. simplex Loew. (Translated from Berl. Entom. Zeitschr., p. 355, by R. Osten-Sacken.)—Cinerea, opaca, antennis nigris, setis faciei utrinque duabus, genis latioribus, tarsis flavescentibus, apicem versus nigris, alis hyalinis.

Cinereous, opaque, antennæ black, two bristles each side of the face, cheeks rather broad, tarsi flavescent, black towards the apex, wings hyaline. Long. corp. 0.07. Long. al. 0.09.

Very like *D. lacteipennis*, but easily distinguished by its black antennæ, the smaller number of facial bristles and their different position, finally, by its hardly whitish wings. Cinereous, opaque. Front rather broad, a little darker than the remainder of the body, with an impressed longitudinal line on each side; frontal lunule very narrow, whitish pollinose. Antennæ black, a whitish pollinose dot on the upper edge of the second joint, bristle pectinated with four or five long hairs. Face moderately broad, gibbous, its upper half distinctly keeled, the lower one convex, receding at the aperture of the mouth. Two bristles on each side of the face, approximated to the eyes. The very narrow orbit of the eyes becomes broader on their under side. Cheeks broader than in most *Discocerinæ*. The cinereous color merges into yellowish on the thorax; on the upper side of the abdomen, especially towards the apex, it becomes more distinctly hoary. Feet concolorous to the rest of the body, hoary with a whitish pollen; anterior tarsi yellowish, blackish towards the tip; hind tarsi entirely obscure. Halteres white. Wings hyaline, slightly tinged with an impure whitish, costal vein not incrassated.

Hab. Maryland. (Osten-Sacken.)

5. D. leucoprocta Loew. ♀. (Translated from Berl. Entom. Zeitschr. 1861, p. 355, by R. Osten-Sacken.)—Cinerea, abdominis atri segmento ultimo niveo, alis hyalinis.

Cinereous, abdomen black, its last segment snow white, wings hyaline. Long. corp. 0.064. Long. al. 0.07.

Front brownish-cinereous, opaque. Antennæ rufous, third joint fuscous, bristle pectinated with five or six long hairs. Face yellowish-white, its upper half keeled, the lower one convex, furnished on each side with three strong bristles. The narrow cheeks, as well as the whole orbit of the eyes, are whitish. Upper side of the thorax blackish-cinereous, opaque, with short black hairs. Pleuræ whitish pollinose. Scutellum concolorous with the thorax. Abdomen black, opaque, last segment rather short, shining white. Fore coxæ black, with a white reflection, yellowish at the tip; trochanters yellow; femora black, cinerascent with a whitish pollen, tip yellow; fore and hind tibiæ black, yellow at basis and apex; the intermediate ones entirely flavescent; all with a whitish reflection on the upper side; tarsi yellow, last joint blackish. Wings hyaline, the third segment of the costa is equal to two-thirds of the length of the second.

Hab. Maryland. (Osten-Sacken.)

II. HYDRELLINA.

The tribe of *Hydrellina* is characterized by the hairy eyes, the absence of a spine on the second joint of the antennæ, and the absence of long bristles on the upper side of the middle tibiæ. The eyes in some genera are covered with very short, close hairs; in other genera these hairs are only scattered, but much longer. Haliday restricts the *Hydrellina* to the genera *Glenanthe*, *Hydrellia*, and *Atissa*. It seems that some other genera, as *Philygria*, *Hyadina*, and *Axysta* can by no means be separated from the *Hydrellina*, to which they are much more closely related than to the *Ephydrina* by their whole organization, and chiefly by the structure of the head. The hairs on the eyes of some species of the three last named genera being very sparingly scattered, and therefore difficult to observe, perhaps it will not be superfluous to remark that in the *Hydrellina* the eyes are always longer and the face is narrowest beneath the eyes, whereas in all *Ephydrina* the eyes are rounder, the horizontal diameter being sometimes even longer than the vertical, so that the antennæ stand where the eyes are most approximated, and the face increases much in breadth immediately below them. Moreover, in the *Hydrellina* the hole of the mouth is never strikingly widened, and the face downwards never projects much, whereas the great width of the oral cavity and the great projection of the inferior part of the face is a most striking character for the *Ephydrina*, excepting only the genera *Pelina* and *Ochthera*. A confusion between the two last named genera with any genus of the *Hydrellina* is sufficiently prevented by the entire bareness of their eyes.

The genera of *Hydrellina* may be arranged as follows:—

Division 1. Eyes with exceedingly close hair.

1	Antennal bristle with a short pubescence.	GLENANTHE *Hal.*
	Antennal bristle pectinated.	2
2	Face convex.	HYDRELLIA *Desv.*
	Face impressed.	ATISSA *Hal.*

Division 2. Eyes with scattered hair.

1	Face with bristles on both sides.	PHILYGRIA *Stenh.*
	Face almost bare.	2
2	Costal vein running to the tip of the fourth longitudinal vein.	HYADINA *Hal.*
	Costal vein running to the tip of the third longitudinal vein.	AXYSTA *Hal.*

North American species of the genera *Hydrellia* and *Philygria* only are known to me.

Gen. I. **HYDRELLIA** R. Desv.

The species of *Hydrellia* are very easily recognized by the very short but exceedingly close pubescence of the eyes, and by the pectinations of the antennal bristle. The other characters are: Second joint of the antennæ not unguiculated; face rather narrow and perpendicular, slightly convex, receding a little towards the border of the mouth; opening of the mouth not widened; cheeks descending very little beneath the eyes. Legs rather slender; middle tibiæ on their upper side without bristles; costal vein extending to the tip of the fourth longitudinal vein.

*Synopsis of the Species.**

1	Anterior coxæ yellow.	1 **ischiaca**, n. sp.
	Anterior coxæ blackish.	2
2	Face snowy white.	2 **hypoleuca**, n. sp.
	Face not white.	3
3	Face brownish-black, opaque.	3 **obscuripes**, n. sp.
	Face yellow.	4
4	Face dark yellow, narrow, much dilated below.	4 **scapularis**, n. sp.
	Face pale yellow, rather broad, but little widened below.	5 **valida**, n. sp.

1. H. ischiaca Loew. ♀.—Subænescenti-fusca, antennis nigris, facie punctoque frontali albis, thoracis margine antico pleurisque canis, pedibus ex fusco nigris, coxis anticis, genibus, tibiarum apice tarsorumque basi ex rufo flavis.

Somewhat brassy brown, antennæ black, face and frontal dot white; anterior border of the thorax and pleuræ whitish-gray, legs brownish-black, anterior coxæ, knees, tips of the tibiæ and base of the tarsi reddish-yellow. Long. corp. 0.1. Long. al. 0.11.

Face of medium breadth, slightly dilated below, without keel; the ground color in the middle is more pronounced, giving it rather a brownish aspect; on each side of the face there are four little bristles, one above the other. Palpi yellow, cheeks a little descending. Antennæ entirely black; the bristle in the described specimen has seven rays. Front proportionately broad, dusted with brown; the dot immediately above the antennæ white. Upper

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* The species No. 6 has not been included in this synopsis.—O. S.

side of the thorax dusted with brown; its anterior border, shoulders, lateral border and pleuræ grayish-white with white dust. Scutellum like the upper side of the thorax, only a little more glossy. Abdomen almost blackish-brown, not very shining, but also little dusted. Legs brownish-black; fore coxæ yellow, somewhat infuscated at the base; all the knees brownish-yellow; end of the foremost tibiæ for a little distance and the end of the middle and hindmost as far as the middle, reddish-yellow; fore tarsi only at the base, middle tarsi as far as the middle, the hind tarsi as far as the end of the fourth joint, reddish-yellow. Poisers yellow. Wings a little grayish; second segment of the costal vein nearly half as long again as the third. *Hydrell. ischiaca* is rather similar to the European species: *fulviceps* Stenh., *pilitarsis* Stenh., and *laticeps* Stenh.; from the first it is sufficiently distinguished by its broader face being dusted with whitish; from *pilitarsis* likewise by its broader and whitish-dusted face, and moreover by the pure white color of the frontal dot, the much whiter dust on the shoulders, anterior and lateral borders of the thorax and pleuræ, and finally by the much more extensive pale color of the legs; from *laticeps* by the rather less breadth of the front and face, by the wings showing no whitish appearance in any direction, and by the less extensive pale color of the legs.

Hab. Middle States. (Osten-Sacken.)

2. H. hypoleuca Loew. ♀.—Subænescenti-fusca, antennis nigris, facie punctoque frontali candidis, thoracis margine antico et margine laterali, pleuris ventreque albo-pollinosis, pedibus nigris, metatarsis posticis rufis.

Somewhat brassy-brown, antennæ black, face and frontal dot pure white; anterior and lateral borders of the thorax, pleuræ, and the whole under side of the abdomen dusted with white; legs black, first joint of the hind tarsi red. Long. corp. 0.11. Long. al. 0.12.

Very similar to the European *H. incana* Hal., which Mr. Haliday thinks to be the same as *H. ranunculi*, previously described by him. Face snowy white, not very narrow, underneath broader, slightly keeled in its whole length, beset on each side with three small bristles. Palpi yellow. Cheeks descending but little below the eyes. Antennæ black; antennal bristle in the described specimen with five rays. Front dusted with brown, opaque; anterior border, but especially the shoulder and lateral border dusted with whitish; the foremost beginning of a grayish-white middle line is indistinctly indicated. Pleuræ dusted with whitish. Scutellum dusted with brown and opaque. Upper side of the abdomen only a little dusted, and therefore a little greener and less opaque. The under side and the part of the upper abdominal plates which is turned downwards, covered with white dust; this dust extends to the upper side of the abdomen on the posterior part of each segment. Legs black; first joint of the middle and hind tarsi yellowish-red; first joint of the fore tarsi brown at the base. Poisers yellow. Wings hyaline, rather grayish; the second segment of the costal vein distinctly half as long again as the third. This species differs from *H. incana* by the pure white dust on the anterior and lateral borders of the thorax, as well as on the pleuræ.

Hab. Middle States. (Osten-Sacken.)

3. H. obscuriceps Loew. ♂.—Subænescenti-fusca, abdomine magis virescente, antennis nigris, facie brunneo-nigrâ, puncto frontali albido, pleuris cinereis, pedibus ex fusco nigris, tarsis posterioribus in basi nigris.

Brassy brown, abdomen more greenish, antennæ black; face brownish-black with a whitish frontal dot; pleuræ ashy gray; legs brownish-black, base of the middle and hind tarsi red. Long. corp. 0.1. Long. al. 0.1.

Face rather narrow above, a little widening underneath, not keeled, of a brownish-black velvety color; on each side there are three small bristles, one above the other. Palpi yellow. Cheeks descending very little below the eyes. Antennæ black, in some directions with a whitish reflection; antennal bristle in the described specimen with six rays. The dot immediately above the antennæ dusted with whitish, but not strikingly so. Front and upper side of the thorax dusted with brown, opaque; anterior and lateral borders of the thorax as well the shoulder without pale dust. Pleuræ pale ashy gray, more brown above. Scutellum of the same color as the upper side of the thorax. Abdomen brownish metallic-green, somewhat glossy; first segment much shortened, second and third of equal length, fourth a little longer, fifth as long as the second and third together, rather broadly truncate at its end, somewhat convex. Legs brownish-black; first joint of the posterior tarsi yellowish-red; the first joint of the foremost tarsi brownish-red only at the base. Poisers yellow. Wings hyaline, a little grayish; the second segment of the costal vein scarcely half as long again as the third. Not possessing any of the few European *Hydrelliæ* with dark colored faces, I cannot point out how *H. obscuriceps* differs from them.

Hab. Middle States. (Osten-Sacken.)

4. H. scapularis Loew. ♀.—Subænescenti-fusca, antennis nigris, facie ochraceâ, puncto frontali pallidius flavo, interdum albido, thoracis margine antico, humeris pleurisque albo-pollinosis, pedibus nigris, metatarsis posticis rufis.

Brassy-brown; antennæ black, face ochraceous, frontal dot paler yellow, sometimes whitish, anterior border of the thorax, shoulders, and pleuræ dusted with white; legs black, first joint of the hind tarsi red. Long. corp. 0.1. Long. al. 0.12.

Very similar to *H. hypoleuca*, notwithstanding the different color of its face, but certainly not a variation in color of that species. Face a little narrower above than in the latter, quite as broad underneath, thus appearing more dilated below, likewise keeled on its whole length, but more distinctly and a little less obtusely; on each side of it there are three small bristles; its color is dark ochraceous. Antennæ black; bristle with five or six rays. Front dusted with brown, opaque, narrower than in *H. hypoleuca;* the dot immediately above the antennæ is dusted with paler yellow or whitish. Thorax dusted with brown, opaque, the dust not being so thick as to prevent its color from inclining a little to greenish; its outermost anterior border and the shoulders are dusted with whitish; the dust of the pleuræ is of the same color. Upper side of the abdomen greener than that of the thorax, slightly dusted, but also slightly glossy; its under side and the part of the upper abdominal plates which is turned downward, are but thinly dusted with whitish. Legs black; first joint of the posterior tarsi yellowish-red; first joint of the anterior tarsi brown at the base. Poisers yellow. Wings glassy, rather grayish; the second segment of the costal vein more than half as long again as the third.

Hab. United States. (Schaum.)

5. H. valida Loew. ♀.—Inter majores sui generis; glauco-cinerea, tota opaca, facie latiusculâ pallide ochraceâ, antennis pedibusque nigris, basi tarsorum omnium rufâ.

Belonging to the largest species of this genus; greenish-gray, opaque everywhere; face rather broad, pale ochraceous; antennæ and legs black; base of all the tarsi red. Long. corp. 0.12. Long. al. 0.15.

Face rather broad, becoming a little broader upwards, only slightly keeled above, ochraceous, with three small bristles on each side. Palpi yellow. Cheeks slightly descending. Antennæ black; antennal bristle in the described specimen with five rays. Front greenish-gray and opaque in consequence of its grayish dust; the dot above the antennæ has a still duller yellow color than the face and is not conspicuous. Upper side of the thorax and scutellum greenish-gray and opaque from its whitish-gray dust. Pleuræ a little paler greenish-gray. Abdomen grayish-green, opaque, with the fifth segment considerably longer than the fourth. Legs black; tarsi yellowish-red as far as the end of the first joint; also the knees, chiefly those of the hind legs, are of this color. Poisers yellow. Wings relatively to the length of the body, large, hyaline; the veins in the neighborhood of the base pale ochraceous; the second segment of the costal vein about twice as long as the third; the posterior transverse vein does not stand quite perpendicularly to the longitudinal axis of the wing, but is slightly oblique.

Hab. Middle States. (Osten-Sacken.)

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6. H. formosa Loew. ♀. (Translated from Berl. Entom. Zeitschr. 1861, p. 355, by R. Osten-Sacken.)—Atra, thoracis dorso, abdominis apice marginibusque nitidis, fronte, thoracis maculâ laterali permagnâ scutelloque aterrimis, opacis, facie, puncto frontali, pleurarumque vittâ superiore, candidis, femoribus nigris, tibiis tarsisque pallidis, alis cinereo-hyalinis.

Dark, thorax above, tip of the abdomen and its borders shining; front, a large spot on the side of the thorax and scutellum deep black, opaque; the face, a dot on the front and a band on the upper side of the pleuræ shining white, femora black, tibiæ and tarsi pale, wings cinereous-hyaline. Long. corp. 0.057. Long. al. 0.064.

Face moderately convex, not keeled, bright shining white. Cheeks very narrow, black. Front and superior part of occiput deep black, velvety, with a striking shining white frontal mark. Antennæ black, third joint rufous, margined with black above, bristle pectinated with scattered black hairs. Thorax very shining above, on each side a large, deep black, velvety lateral spot.

Scutellum deep black, opaque, with a narrow subcinereous border. Pleuræ black, with a broad, shining white band above. Abdomen black, opaque, the apical half as well as the lateral borders shining. Femora black; tibiæ and tarsi pale yellowish, the upper edge of the former with a white reflection, terminal joint of the latter black. Halteres pale lemon-yellow. Wings cinereous-hyaline, second segment of the costa somewhat longer than the third; third longitudinal vein ending at the very tip of the wing; posterior transverse vein occupying the middle between the basis and the tip of the wing.

Hab. Pennsylvania. (Osten-Sacken.)

Observation.—This species, although very much like *Philhygria picta* Fall. and the allied species, proves to be a true *Hydrellia* on account of the short and very dense pubescence of its eyes.

Gen. II. **PHILYGRIA** Stenh.

Haliday has employed for this genus the name *Hydrina*, given by Rob. Desvoidy; but as this name, being derived from *Hydra*, is also used in the family of *Polypi*, it seems more advisable to adopt for it the name *Philygria* of Stenhammar; otherwise this name would not be used at all, the two other genera, which joined with the present, form the genus *Philygria* of Stenhammar, being already possessed of their authorized names, *Hyadina* and *Axysta*. The genus *Philygria*, taken in the present sense, may be characterized in the following manner: Second joint of the antennæ not unguiculated; antennal bristle with a short pubescence. Eyes distinctly hairy, rather rounded, but higher than broad, slightly prominent. Face descending obliquely, narrowed upwards, receding a little towards the mouth, the anterior border of which is a little pointed; on both sides there are distinct bristles. Clypeus undeveloped; mentum rather thickened; cheeks slightly descending. The costal vein attains the fourth longitudinal vein; the posterior transverse vein is rather distant from the border of the wing.

1. P. fuscicornis Loew. Fusco-cinerea, abdomine nigricante, facie flavescente, pedibus nigris, tarsis rufis, in apice fuscis, alis cinerascentibus, cellulâ discoidali et guttâ pone venam transversam posteriorem limpidioribus, venis transversis fusco-limbatis.

Brownish-gray; abdomen blackish, face yellowish; wings gray with the discoidal cell and a drop behind the posterior transverse vein more hyaline; transverse veins margined with blackish-brown. Long. corp. 0.9. Long. al. 0.11.

It has a certain resemblance with *Philygr. femorata* Stenh. and *interrupta* Hal., namely, the form of its face is almost as in the latter, and likewise more yellowish on the middle, whitish on the lateral borders and towards the cheeks. Antennæ blackish, appearing whitish-gray in certain directions, brownish on the inferior border only, when held against the light. Thorax grayish-brown, on its anterior border dusted with whitish-gray; its darker stripes are obsolete, but more visible in the neighborhood of the anterior border, where they extend a little into the brighter gray color. Scutellum as the upper side of the thorax. Pleuræ gray. Abdomen grayish-black, more black towards the end, not glossy. Legs black, tarsi yellowish-red as far as the fourth joint. Wings grayish with a hyaline spot behind the posterior transverse vein and with a rather clearer discoidal cell; the clearer color of the latter is only seen if the light shines through the wing and the wing is looked at in an oblique direction, while the clear spot behind the posterior transverse vein is distinctly seen in every direction. The two transverse veins have only a very narrow and ill-defined dark margin, and the posterior transverse vein is a little less distant from the posterior border of the wing than is usual in this genus; the second longitudinal vein being very long, the second segment of the costal vein is more than twice as long as the third.

Hab. Middle States. (Osten-Sacken.)

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2. P. opposita Loew. ♂. (Translated from Berl. Entom. Zeitschr. 1861, p. 356, by R. Osten-Sacken.)—Ex cinereo fusca, abdomine atro nitido, alarum venis longitudinalibus secundâ, tertiâ et quartâ nigropunctatis, venis transversis late nigro-limbatis.

Cinereous-brown, abdomen black, shining, the second, third and fourth longitudinal veins of the wings spotted with black, transverse veins broadly clouded with black. Long. corp. 0.07—0.09. Long. al. 0.095.

Cinereous-brown, opaque. Ocellar triangle large, concolorous, rather indistinctly separated from the remainder of the front. Two basal joints of the antennæ black, the third black, with the bases and the apical half impurely rufous. Face narrow, black, with a whitish pollen, its middle portion flavescent below. Facial orbitæ of the eyes narrow, with a white reflection. Thorax obscure, cinereous brown above, with very narrow, obsolete darker lines. Pleuræ dark cinereous. Scutellum concolorous with the thorax. Abdomen black, very glossy, a large obscurely cinereous opaque basal spot, not attaining the posterior margin of the second segment. Legs yellowish ferruginous, last joint of tarsi black, base of femora sometimes fuscous. Wings cinereous hyaline, veins black; short stumps of veins clouded with black, proceed from the second, third, and fourth longitudinal veins; the third vein emits four such stumps, all of which, except the last, are opposed to similar stumps on the second vein; the last segment of the fourth vein generally emits two stumps; the ordinary transverse veins are broadly clouded with black. The second segment of the costa is almost twice as long as the third.

Hab. Pennsylvania. Washington. (Osten-Sacken.)

Observation.—Phil. opposita is very like *P. punctato-nervosa* Fall., but distinguished by a more brown color, a more narrowed face, darker legs and antennæ, a larger portion of the abdomen colored with black and by a smaller number of dots on the wings. The facial orbitæ of the eyes, which are much narrowed in *P. opposita*, evidently prove it to be a distinct species.

Note.—Some specimens have *five* stumps on the third vein, opposed to *four* on the second, and more than two stumps on the last segment of the fourth vein. O. S.

3. P. debilis Loew. ♀. (Translated from Berl. Entom. Zeitschr. 1861, p. 356, by R. Osten-Sacken.)—Nigro-cinerea, opaca, antennis totis nigris, fronte atrâ opacâ, triangulo ocellari maximo, nigro-cinereo, ultimo abdominis segmento atro, nitido, pedibus obscuris, genibus, tibiarum anteriorum apice, tarsisque flavescentibus, horum apice nigro, alis cinereohyalinis, circa venas transversales infuscatas limpidioribus.

Blackish-cinereous, opaque, antennæ entirely black, front black, opaque, ocellar triangle very large, blackish-cinereous, last segment of the abdomen black, shining, feet obscure, knees, tip of the anterior tibiæ and tarsi yellowish, tip of the latter black, wings cinereous-hyaline, with clearer spaces round the infuscated transverse veins. Long. corp. 0.05. Long. al. 0.064.

Blackish-cinereous, opaque. Front black, with a very narrow white marginal line on each side and the rather large ocellar triangle, blackish-cinereous. Antennæ entirely black. Face yellowish, orbits narrow, whitish. Thorax above with very narrow almost obsolete lines. Abdomen a little darker and less opaque than the thorax, last segment black, smooth. Legs blackish, knees and tip of the anterior tibiæ yellowish, hind tibiæ either altogether blackish, or marked with a narrow, very obsolete pale ring, tarsi yellowish, their last joints blackish. Halteres impure white, knob somewhat darker. Wings cinereo-hyaline, with clearer spaces round the infuscated transverse veins, second costal segment almost twice as long as the third.

Hab. Pennsylvania. (Osten-Sacken.)

Observation.—This species is very like *Philygr. femorata* Stenh., but distinguished by entirely black antennæ, by a less obtuse anterior angle of the ocellar triangle and by a conspicuously longer second costal segment.

III. EPHYDRINA.

The *Ephydrina* are well characterized by their quite naked, prominent, and usually much rounded eyes, by the second joint of their antennæ not unguiculated, and by the middle tibiæ without spinous bristles on their upper side. By the genus *Pelina* they are nearest related to the latter genera of *Hydrellina.* The mentum is much enlarged and swollen in almost all the genera, the oral cavity generally of large width. The genera with less widely opened mouth, as *Pelina* and *Ochthera*, so manifestly bear the chief characters of *Ephydrina*, that no doubt can arise about their systematic position.

The genera of *Ephydrina* hitherto established may be arranged as follows:—

Division 1. Clypeus prominent.

1	The small basal cells of the wings complete.	CANACE *Hal.*
	The small basal cells of the wings wanting.	2
2	Oral cavity proportionally narrow.	3
	Oral cavity exceedingly wide.	4
3	Fore femora not thickened.	PELINA *Hal.*
	Fore femora much thickened.	OCHTHERA *Latr.*
4	Costal vein attaining the third longitudinal vein.	BRACHYDEUTERA *Loew.*
	Costal vein attaining the fourth longitudinal vein.	5

5 { Face on each side with a long bristle; lateral border of the mouth without bristles. PARYDRA *Stenh.*
Face on each side with several long bristles; lateral border of the mouth with bristles. HALMOPOTA *Hal.*

Division 2. Clypeus retracted in the oral cavity.

1 { Claws almost straight, pulvilli indistinct. EPHYDRA *Fall.*
Claws curved, pulvilli distinct. 2

2 { Oral border quite bare. ILYTHEA *Hal.*
Oral border with bristles. 3

3 { Antennal bristle bare. TICHOMYZA *Macq.*
Antennal bristle not bare. 4

4 { Antennal bristle pubescent. SCATELLA *R. Desv.*
Antennal bristle pectinated. CÆNIA *R. Desv.*

The North American *Ephydrina* known to me belong to the five genera: *Ochthera*, *Brachydeutera*, *Parydra*, *Ephydra*, and *Scatella.*

Gen. I. **OCHTHERA** LATR.

One of the most distinct genera of *Ephydrina.* Front very broad; antennal bristle above, with three rays. Face above moderately broad, with two furrow-like longitudinal impressions approaching each other very much on the middle, then diverging from each other as they descend, and finally continued in a direction parallel to the lateral border of the mouth; on the surface of the face there are some fine and short hairs, but no bristles at all. The face and cheeks descend very deep beneath the large prominent eyes, but are again contracted sensibly towards the opening of the mouth, rendering it smaller than in any of the other genera of *Ephydrina.* Clypeus having the form of a small flat lamella, projecting beyond the anterior border of the mouth. The fore coxæ a little prolonged; the fore femora exceedingly swollen, furrowed on their under side for the reception of the curved tibiæ, which terminate in a spine, and beset with a few small bristles; the first joint of the hind tarsi more or less thickened. The costal vein of the wings reaches to the fourth longitudinal vein; the second segment of the costa is proportionally very long; the posterior transverse vein is very oblique; the third and fourth longitudinal veins converge rather remarkably towards their ends.

Observation.—Th. Say has described a fly as *Ochthera empiformis;* but on a closer consideration of his observations on the anterior femora, the color of the insect, and its small size, it becomes indubitable that he has been deceived relatively to the true characters of the genus *Ochthera*, and it is to be supposed that his *Ochthera empiformis* is an insect belonging to the *Tachydromidæ*.

Synopsis of the Species.

1	Face with deep black furrows and dots.	1 **exsculpta**, n. sp.
	Face without black furrows and dots.	2
2	First joint of the hind tarsi but little swollen.	2 **mantis** *Deg.*
	First joint of the hind tarsi much swollen.	3
3	Tarsi black, face broad.	3 **rapax,** n. sp.
	Tarsi red, face narrow.	4 **tuberculata,** n. sp.

1. O. exsculpta Loew. ♂.—Facies angustissima, lineis punctisque exsculptis ornata; tibiæ anticæ rufæ.

Face exceedingly narrow, with shining-black furrows and impressed black dots; fore tibiæ red. Long. corp. 0.16. Long. al. 0.15.

A readily distinguished species, not quite equalling the three following in size. Front narrower than in all the other known species, almost entirely covered with a large shining spot having the form of a regular trapezium, near which the color is velvety-black at the borders of the eyes and brownish on the anterior corners of the front. Eyes larger and longer than in the other species. Face unusually narrow, dusted with yellow; a shining black furrow runs from the tubercle placed in the middle of the face to the border of the mouth, and has on each side a similar furrow, the under part of which is laterally continued in a parallel direction to the border of the mouth; the lateral parts of the face have some impressed, rather coarse, dots. Clypeus sensibly smaller than in the other species. The fore femora black; the fore tibiæ and tarsi red, the first joint of the latter a little longer and a little less pear-shaped than in the other species. The middle and the hind legs black; the tips of the knees and the tibiæ on their first third red; the first joint of the middle tarsi red as far as the tip, the following joints being so only at the base; the first joint of the hind tarsi is very little swollen, the second and following joints red at the base.

Hab. Cuba. (Poey.)

2. O. mantis Deg. ♂ and ♀.—Pedes nigri, tibiis intermediis non dilatatis, tarsorum intermediorum basi rufâ, metatarso postico modice incrassato.

Legs black; middle tibiæ not enlarged, middle tarsi red at the base, first joint of the hind tarsi only little swollen. Long. corp. 0.24—0.25. Long. al. 0.2.

I am quite unable to distinguish this species, so common in the Middle States of the Union, from the European *Ochth. mantis*. It is true, indeed, that in most American specimens the eyes are a little more distant from each other than in the European; but this difference in some cases disappears entirely; nor do the European specimens altogether agree in this respect. The color of the face is likewise as variable as in the European specimens. As markings, distinguishing this species from the two next ones, which resemble it very much, the following may be noted: The ground color of the legs, in well-colored specimens, is black, only the middle tarsi being red from their base for a very variable extent. The middle tibiæ are considerably narrower than in *Ochth. rapax* and *tuberculata*, and entirely dusted on their anterior side; the first joint of the hind tarsi is very little swollen and rather long.

Hab. Middle States. (Osten-Sacken.)

3. O. tuberculata Loew. ♂.—Pedes nigri, tibiis intermediis subdilatatis, tarsis omnibus obscure rufis, metatarso postico nigro, valde incrassato.

Legs black; middle tibiæ a little enlarged; all the tarsi dark red, the first joint of the hind tarsi black and very much swollen. Long. corp. 0.18. Long. al. 0.17.

Very similar to *Ochth. mantis*, but its face is considerably narrower in its upper part, and the elevation in the middle of it forms more distinctly a small double knob. The middle tibiæ are broader, on their outer edge sharper, and polished on a great part of its anterior side; the knees of the hind legs and all the tarsi brownish-red, the last joint of the latter more brownish; the first joint of the hindmost tarsi black, much swollen.

Hab. Illinois. (Schaum.)

4. O. rapax Loew. ♂.—Pedes nigri, tibiis intermediis subdilatatis, tarsorum intermediorum basi rufâ, metatarso postico valde incrassato.

Legs black, middle tibiæ a little enlarged, middle tarsi red at the base, first joint of the hind tarsi much swollen. Long. corp. 0.16. Long. al. 0.17.

Very similar to *Ochth. tuberculata* in the form of the legs, only the middle tibiæ are of a less equal breadth, but become sensibly broader towards their end. It is also very easily distinguished from *Ochth. tuberculata* by its broader and shorter face showing only an exceedingly flat elevation in the middle. Legs entirely black, only at the base of the first joint of the middle tarsi there is a slight red tinge; the first joint of the hindmost tarsi is still a little shorter and thicker than in *Ochth. mantis.* The wings have rather a more distinct blackish-gray clouding than in the other species. It differs from *Ochth. mantis* by its shorter face, the flatter elevation in the middle of it, and the much shorter and thicker basal joint of its posterior tarsi.

Hab. Carolina. (Zimmermann.)

Gen. II. **BRACHYDEUTERA** Loew.

Eyes naked, proportionately rather large. Front exceedingly broad. Second joint of the antennæ not unguiculated, as large as the third, the latter rounded; antennal bristle with unusually long rays. Upper part of the face deeply impressed on both sides, and with a keel, resembling a nose, in the middle; the lower part of it is very prominent. The anterior end of the oral margin very much ascending and allowing the convex clypeus to appear. Besides, the whole face is quite bare, with the cheeks descending but very little beneath the eyes. Legs quite bare, rather slender and long; anterior tarsi elongated and exceedingly slender; claws small and delicate, pulvilli rather indistinct. Costal vein of the wing reaching only to the tip of the third longitudinal vein; second longitudinal vein exceedingly short and curved towards the costa like an arch, so that the third segment of the costa is several times longer than the second; the small transverse vein is unusually distant from the base of the wing; the posterior transverse vein is at a little distance from the border of the wing and has a nearly perpendicular position; the last segment of the fourth longitudinal vein is much attenuated.

1. B. dimidiata Loew. ♀.—Superius brunnea, inferius tota candida.

On the upper side brown, on the whole under side white. Long. corp. 0.13—0.14. Long. al. 0.14—17.

Dark brown and entirely opaque on the whole upper side. In well preserved specimens there are, on the upper side of the thorax, two somewhat grayish-brown, approximated, longitudinal lines, which commence at the anterior end of the thorax and stop before reaching the posterior end; between them there is the trace of a fine pale middle line, which becomes more distinct at the posterior end of the thorax and is continued through the scutellum; there are besides two other longitudinal lines, which, being nearer the lateral border and interrupted in the neighborhood of the suture, are not truncated posteriorly and continue indistinctly on the lateral borders of the scutellum. Some specimens show very faint traces of these markings of the thorax. The keel, resembling a nose, on the upper part of the face is dark brown; the remainder of the face together with the cheeks, and the inferior half of the occiput, breast, and pleuræ, as well as the part of the upper abdominal plates which are much turned downwards, are almost silvery white; this color on the last abdominal segments ascends a little to the upper side of the posterior borders. Legs in well-colored individuals blackish-brown, only the apical third of the femora and the first half of the posterior tibiæ being more or less reddish-brown; in less distinctly colored specimens often only the tips of the tibiæ and the tarsi are blackish-brown, all the remainder being brownish-yellow. Wings hyaline with brownish-black veins, sometimes more clouded with grayish in the neighborhood of the costa; the third segment of the costa is twice and a half or three times longer than the second.

Hab. Washington. (Osten-Sacken.)

Observation.—A female sent by Poey from Cuba differs from those received from Baron Osten-Sacken by its brown wing-veins and clay-yellow legs, the tarsi only being of a dark-brown color; but it is only a paler colored specimen of *Brachyd. dimidiata*, which became still paler in the course of time.

Gen. III. **PARYDRA** Stenh.

Form of the body short and stout. Thorax and scutellum very convex. Front very broad. Antennal bristle on the upper side with a short pubescence, which in some species is difficult to perceive; bare towards the end. Face very broad, not so much vaulted as in the true *Ephydræ*, but with a convexity descending more obliquely, on each side with a very characteristic, long, curved, hair-like bristle, beneath which are some shorter hairs, hardly perceptible in some species. Clypeus prominent. Cheeks descending beneath the eyes. Lateral borders of the mouth quite bare. Mentum exceedingly thickened. Legs short and rather clumsy. The small transverse vein of the wings is behind the middle of the discoidal cell, consequently proportionately far from the base of the wing; the posterior transverse vein is not very near the border of the wing, and has a more or less oblique position; the alula is strikingly large.

The species of this genus may be divided into two sections, the first of which comprises thickly hairy species with very convex faces. In North America only naked species, belonging to the second section, have been as yet discovered; they are very similar to the European species of this section; however, they appear to have more plastic differences than these, and to be consequently more easily distinguished from each other. This can be said at least of the four species known to me, none of which is provided with the small appendage of the second longitudinal vein distinguishing some of the European species.

*Synopsis of the Species.**

1	Scutellum with conical warts.	2
	Scutellum without conical warts.	3
2	Scutellum with two warts.	1 **bituberculata**, n. sp.
	Scutellum with four warts.	2 **quadrituberculata**, n. sp.
3	Face nearly perpendicular.	3 **breviceps**, n. sp.
	Face descending obliquely.	4 **paullula**, n. sp.

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* The species No. 5 has not been included in this synopsis.—O. S.

1. P. bituberculata Loew. ♂ and ♀.—Ex brunneo æneseens, alis cinereo-hyalinis, venis transversis nigro-limbatis, scutello bituberculato.

Brassy-brown, wings grayish with black margins of the transverse veins; scutellum with two warts. Long. corp. 0.17—0.18. Long. al. 0.17.

Very similar to *Parydra aquila* Fall. in size, form, and color. Face proportionally not very prominent, dusted with brown; the characteristic bristle on each side proportionally slender; upwards near it, but a little more towards the middle of the face, is a rather distinct, impressed spot; the shorter hairs inserted beneath it are hardly perceptible. Orbitæ and cheeks very broad; clypeus very prominent. Antennæ black; antennal bristle hair-like and bare towards the end, stouter about the middle, and with a short pubescence on the upper side. Upper side of the thorax with rather indistinct stripes; the rows of fine punctures, including the stripes, a little more distinct than in the other species. Scutellum at the tip with two not approximated warts, bearing at the end the two usual small bristles of the scutellum. Legs dark, with only the tarsi usually red with black tips; there are individuals with much darker tarsi; the white reflection at the base and tip of the tibiæ not very striking. Wings clouded with grayish, having brownish-black veins and black margins of the transverse veins, in the neighborhood of which the surface of the wings is more distinctly hyaline; the second segment of the costa is nearly twice as long as the third; the ends of the third and fourth longitudinal veins parallel. There are some specimens, the faces of which are dusted with dull whitish; but these certainly belong to the same species.

Hab. Middle States. (Osten-Sacken.)

2. P. quadrituberculata Loew. ♂ and ♀.—Nigro-ænea, alis hyalinis, venis transversis interdum nigro-limbatis, scutello quadrituberculato.

Brassy-black, wings hyaline, transverse veins sometimes margined with blackish; scutellum with four warts. Long. corp. 0.17. Long. al. 0.17.

Similar to the preceding species in color, but a little blacker, not quite equalling it in size. Face generally dusted with white, the dust less frequently quite yellowish on the upper part; the under part of the face projects somewhat less than in *Parydra bituberculata;* the characteristic bristle on each side is very slender and rather short; no impressed spot in its neighborhood; the short small hairs beneath it are scarcely visible; eye-rings and cheeks very broad, but the latter a little narrower than in *Parydr. bituberculata.* Antennæ black; the bristle towards its end excessively slender, being stouter to about its middle, and provided on its upper side with a hardly distinguishable pubescence. Thorax rather indistinctly striped; the two longitudinal lines formed by fine scarcely visible punctures. Scutellum on its tip with two very approximated conical warts, on the tips of which are the two small bristles usually inserted at the end of the scutellum; on each side there is a similar tubercle, ending likewise in a small bristle. Tibiæ and tarsi usually brownish-red, with blackened tips; but there are specimens with the tibiæ quite black and the tarsi brown only at the base, the remainder being quite black; only in recently developed specimens the anterior side of the tibiæ is dusted with white on their whole length; this white dust is generally interrupted behind the middle of the tibiæ. Wings proportionally a little longer than in the other species; the second segment of the costa is about one-half longer than the third; the last segment of the fourth longitudinal vein is unusually long, showing the trace of a slight convergency towards the third longitudinal vein; the fifth longitudinal vein is truncated immediately behind the posterior transverse vein; otherwise the wings are hyaline with a very faint grayish tinge; the veins are brownish-black as far as the base, or frequently brown or brownish-yellow in the neighborhood of the base; sometimes this brownish-yellow color on the costal vein extends to far beyond the middle of the wing; the transverse veins in most specimens are not margined, or show only a trace of blackish-gray clouding; but sometimes they have rather broad blackish margins, the surface of the wing being clearer in their neighborhood; these margins are found particularly in specimens which have a blacker coloration and almost entirely black legs. The deviations are more remarkable than those occurring in the other species of *Parydra;* but there are various transitions between them, which make it improbable that there is more than one species.

Hab. Middle States. (Osten-Sacken.)

3. P. breviceps Loew. ♀.—Nigro-æenea, facie subperpendiculari, scutello mutico, venis alarum transversis obscure limbatis.

Blackish-aeneous, face rather perpendicular, scutellum without warts; transverse veins of the wing margined with obscure. Long. corp. 0.16. Long. al. 0.16.

Blackish-aeneous. Face dusted with brown, less projecting than in any other *Parydra* known to me, consequently almost quite perpendicular. Orbitæ excessively narrow; the characteristic small bristle on each side of the face is of moderate length and rather slender; beneath it there are a few shorter distinctly visible hairs. Clypeus very narrow; cheeks broad. Antennæ black; the bristle rather slender even at its basal half, hair-like towards its end, with a short but distinct pubescence on its upper side reaching beyond the middle. Thorax rather indistinctly striped; scutellum without tubercles, as is the case in the European species. Femora black. Tibiæ reddish-brown, with a little white reflection at the base and tip, but in the specimen now before me it is too rubbed off to afford any certainty about its extent and nature. Abdomen rather shining, almost with a band of whitish-gray hoar on the posterior border of each segment. Wings rather tinged with grayish, having blackish margins on the transverse veins, the surface of the wings being more hyaline in their neighborhood. The second longitudinal vein is considerably shorter than in the two preceding species, in consequence of which the second segment of the costa is but little longer than the third; the ends of the third and fourth longitudinal veins are parallel; the fifth longitudinal vein curves a little posteriorly at the second half of the discoidal cell.

Hab. Middle States. (Osten-Sacken.)

4. P. paullula Loew. ♀.—Omnium minutissima, facie proclivi, genis angustis.

Very small; face projecting obliquely, cheeks very narrow. Long. corp. 0.06—0.07. Long. al. 0.06—0.07.

A very small species, of which I have only a single somewhat immature specimen, so that I am unable to say more of its colors than that they appear to differ little from those of the other species. Face descending obliquely, and therefore rather projecting with its lower parts; the characteristic bristle on each side rather long and unusually near the border of the mouth. Clypeus and cheeks excessively narrow. Antennæ black, the bristle with fine pubescence to beyond the middle. Scutellum without marginal tubercles; the two small bristles on its tip rather distant from each other. Wings in better colored individuals undoubtedly with much gray clouding and blackish margins of the transverse veins, in the neighborhood of which the surface of the wings is more glossy; the second segment of the costa is only a fifth longer than the third; the ends of the third and fourth longitudinal veins with a trace of a slight divergency; the fifth longitudinal vein extends to the border of the wing.

This species is very similar to *Parydra pusilla* Meig.

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5. P. abbreviata Loew. ♂. (Translated from Berl. Entom. Zeitschr. 1861, p. 357, by R. Osten-Sacken.)—Minuta, antennis tibiisque ferrugineis; alæ infuscatæ guttis aliquot hyalinis distinctissimis ornatæ, segmento costæ tertio secundi longitudinem paulo excedente, venis longitudinalibus tertiâ et quartâ distincte divergentibus.

Small, antennæ and tibiæ ferruginous; wings infuscated, with several hyaline, very distinct dots, third segment of the costa somewhat exceeding the second in length, third and fourth longitudinal veins distinctly diverging. Long. corp. 0.07. Long. al. 0.07.

Olivaceous. Antennæ obscure ferruginous, the two first segments and the upper edge of the third, black; the whole bristle has a short pubescence above. Face moderately sloping, the ordinary bristle on each side is not more approximated to the peristoma than in most of the congeners. Cheeks narrow. Scutellum not tuberculated. Legs black, knees, tibiæ and base of tarsi ferruginous; the whitish pollen, generally extant on the tibiæ of the allied species, is wanting here. Wings rather short, distinctly infuscated, marked with seven rather large hyaline spots; second longitudinal vein with a very short, hardly perceptible appendage; third and fourth veins diverging near the apex; second costal segment almost equal in length to the third.

Hab. Pennsylvania. (Osten-Sacken.)

Gen. IV. **EPHYDRA** Fall.

The hairy, exceedingly vaulted, and very projecting face, the very large opening of the mouth with ciliated border, the concealed clypeus, the nearly straight and rather long claws, and the indistinct pulvilli, characterize the genus *Ephydra*. The bristle of the antennæ is usually pubescent, sometimes almost pectinated with short rays. The genera nearest related to *Ephydra* are *Cœnia* and *Scatella*, the claws of which are curved and the pulvilli distinct. The genus *Tichomyza* is not so near to the genus *Ephydra* and may be easily distinguished from it by its unusually large pulvilli.

1. E. atro-virens Loew. ♂ and ♀.—Obscure viridis, nitida brunneo-pollinosa, antennarum articulo tertio unipili, setâ brevissime puberulâ; ♂ quinto abdominis segmento præcedente breviore, hypopygio brevi, marginem segmenti quarti posteriorem non attingente.

Dark green, glossy, dusted with brown; third joint of the antennæ with a hair, the terminal bristle with very short pubescence; ♂, fifth segment of the abdomen shorter than the fourth, hypopygium short, not reaching the posterior border of the fourth ventral segment. Long. corp. 0.17—0.18. Long. al. 0.17—0.18.

Exceedingly similar to the European *Ephydra micans* Hal., so that I am unable to distinguish the female of the two species, but the much shorter hypopygium of the male characterizes the species as a distinct one. Dark metallic green, very shining, but with brown hoar on the front, thorax, and abdomen, which, distinctly appearing on an oblique inspection of these parts of the body, makes them appear brown and opaque; this brown color is least visible on the abdomen. Antennæ black; third joint on its outer side near the base with a single bristle-shaped hair, which is longer than the joint itself; antennal bristle only with very short pubescence. The front and the sloping space extended between the antennæ and the highest elevation of the face are shining green or bluish-green. Face dusted with white, which, according to the observations made in the allied species, may not be a constant marking; border of the mouth in both sexes with short and rather fine cilia, quite as in *Ephydr. micans* Hal. The ground color of the legs is greenish-black, covered with dust, shining blackish-green on the rubbed parts. Wings clouded with blackish-gray.

Hab. Middle States. (Osten-Sacken.)

Gen. V. **SCATELLA** Rob. Desv.

This genus contains only smaller and generally not metallic species. Front and face very broad; eyes rounded; face usually very convex, hairy and bristled; border of the mouth ciliated; opening of the mouth wide; clypeus concealed; cheeks moderately broad; mentum swollen. Second joint of the antennæ not unguiculated; antennal bristle with fine, usually very short pubescence. Claws curved, pulvilli distinct. Costal vein of the wings reaching to the tip of the fourth longitudinal vein; the small transverse vein generally almost exactly beneath the tip of the first longitudinal vein; the posterior transverse vein not approaching the border of the wing. The nearest genus is *Cænia*, differing, however, from *Scatella* by the pectinated bristle of its antennæ.

1. S. favillacea Loew. ♀.—Cinerea, facie albâ, alis cinereo-hyalinis, obsolete quadriguttatis.

Ashy-gray; face white; wings grayish-hyaline with four indistinct clear drops. Long. corp. 0.12—0.13. Long. al. 0.13.

This species resembles most the European *S. sorbillans* Hal., which is identical with *S. argyrostoma* Stenh., but differs from it by its more considerable size, more roughly haired face and gray color of the dust on the posterior part of the cheeks, on the inferior part of the occiput, on the pleuræ and under side of the abdomen, on all which parts it is whitish in that species; *S. favillacea* wants also the clear drop lying beyond the posterior transverse vein in *S. argyrostoma*. The upper side of the whole body is covered with grayish-brown dust, which on the middle of the thorax and on the scutellum does not conceal the shining of the ground color; the large spot lying on the middle of the front is shining greenish. Face very convex, dusted with snowy white, with rather rough hair and the usual row of curved upwards bristles. Opening of the mouth wide, with distinct black cilia on the borders. Antennæ black; the pubescence of the bristle is a little longer and more distinct than in most species of this genus. Upper side of the thorax not distinctly striped. Pleuræ dusted with yellowish-gray, on their superior border with rather brown dust. Under side of the abdomen, femora, and upper side of the tibiæ with gray dust. Wings clouded with grayish, having black veins; of the five clear drops, peculiar to so many species of this genus, that lying beyond the posterior transverse vein is entirely wanting, and the remaining are rather indistinct; the second segment of the costa is at least four times as long as the third; the third and fourth longitudinal veins are parallel towards their ends.

Hab. Middle States. (Osten-Sacken.)

2. S. lugens Loew. ♂ and ♀.—Nigra; alæ nigricantes, guttis hyalinis quinque in disco duabusque obsoletioribus in apice pictæ.

Black; wings blackish with five clear drops in the middle and two more indistinct ones towards the tip. Long. corp. 0.11. Long. al. 0.13.

It differs from the European *Scat. stagnalis* only by somewhat more acute wings, its somewhat less convex face, and the stripes of the thorax being a little more distinct; perhaps on examining a larger number of specimens it may prove to be only a variety of it. Black; face with brownish-gray dust, rather convex, only a little impressed beneath each antenna, hairy and bristled, with distinct black cilia on the border of the mouth. Antennæ black; the bristle with an excessively short, but yet distinct pubescence. Cheeks exceedingly narrow. Front dusted with grayish-brown, the spot on the middle of it a little glittering. Upper side of the thorax likewise dusted with brown, but not without all gloss, with two distinct whitish-gray longitudinal stripes, but little distant from each other and beginning on the anterior border, but not reaching nearly to the posterior border; besides there are two short lateral stripes of the same color, beginning at the shoulder-corner. Scutellum of the color of the upper side of the thorax, only a little more glossy. Abdomen black, rather glossy towards the end: the fifth abdominal segment of the male is almost twice as long as the fourth. Legs entirely black. Wings clouded with black, having five glassy drops on the middle, in the usual position; besides there is an obsolete spot, forming an indistinct clear drop near the border of the wing between the tip of the second and third longitudinal veins, and another still less perceptible spot in the cloudy color beyond the tip of the third longitudinal vein.

Hab. Middle States. (Osten-Sacken).

3. S. obsoleta Loew. ♀. (Translated from Berl. Entom. Zeitschr. 1861, p. 358, by R. Osten-Sacken.)—Opaca, capite toto, scutello pleurisque ex flavo, pectore et abdomine ex cano cinereis, antennis pedibusque nigris; alæ hyalinæ, dilute cinerascentes, guttis limpidioribus quinque obsoletissimis.

Opaque, the whole head, scutellum and pleuræ yellowish-cinereous, pectus and abdomen hoary-cinereous, antennæ and feet black; wings hyaline, with a pale cinereous tinge; five almost obsolete clear spots. Long. corp. 0.07. Long. al. 0.09.

Head altogether yellowish-cinereous, antennæ black, face very vaulted,* peristoma ciliated with moderate hairs. Thorax concolorous with the head, pectus subglaucous. Scutellum yellowish-cinereous. Abdomen hoary-cinereous, subglaucous, opaque. Legs altogether black, slightly pollinose with white. Halteres impure yellow, stem brown. Wings hyaline, tinged with very pale cinereous, marked with five clear very obsolete spots; transverse veins not infuscated; second costal segment more than thrice longer than the third.

Hab. Washington. (Osten-Sacken.)

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* The original has *fornicatus*, which means forming a rounded arch with an empty space below.—O. S.

V.

ON THE NORTH AMERICAN CECIDOMYIDAE.

BY BARON R. OSTEN-SACKEN.

It is a peculiarity of the family of *Cecidomyidæ* that its natural history has always been studied in close connection with its classification. This is owing chiefly to the fact that *the gall*, the produce of the insect in its first stage of life, is generally a more striking object in nature than the insect itself. The latter small, tiny, difficult to preserve on account of their extreme delicacy, still more difficult to distinguish from their congeners on account of the uniformity of their appearance and coloring, would afford a very unsatisfactory object of study, unless in connection with the varied deformations which their larvæ produce on plants. The study of this family, different in this respect from most of the other families of insects, cannot be prosecuted apart from the observation of living nature, and for this very reason will always be a monopoly of the naturalist so situated as to afford such observations.

The aim of the present paper is to direct the attention of American entomologists to this most interesting subject, by giving an account of the observations already made on the North American *Cecidomyidæ*, as well as a general introduction to the study of the habits and the classification of this family. The latter has been extracted chiefly from the two following admirable monographs:—

Loew, Dr. H. Dipterologische Beiträge, Part fourth, Posen, 1850, with a plate. (Contains a monograph of the European *Cecidomyidæ*.)

Winnertz, J. Beitrag zu einer Monographie der Gallmücken. In the Linnæa entomologica, Vol. VIII, Berlin, 1853, with four plates.

I. *On the classification of the* CECIDOMYIDÆ.

In the sketch of a systematical distribution of the Diptera, given by Prof. H. Loew in this volume, he has mentioned the difficulties attending a sharp definition of this family, and has shown that it may be naturally divided in two sections.

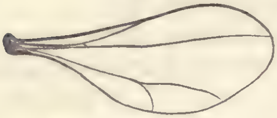
The species embraced in the first section, which he calls *Cecidomyina*, have four longitudinal veins on the wings, the last two of which often coalesce in the beginning of their course, forming a more or less distinct fork. They have no ocelli, and the first joint of their tarsi is much shortened.

The second section, which Prof. Loew calls *Anaretina*, has one longitudinal vein more, which is inserted between the second and third veins of the first section; this supplementary vein is simple in *Campylomyza* and furcate in all the other genera. The first tarsal joint is not shortened, and in all the genera, with the exception of *Cecidogona*, there are distinct ocelli.

The first section, which contains all the gall-producing *Cecidomyidæ* at present known, comprises two genera of Meigen and a third genus, discovered by Mr. Winnertz, and of which but a single species is described. These three genera are easily distinguished by the neuration of their wings, which are always pubescent, and may be characterized as follows:—

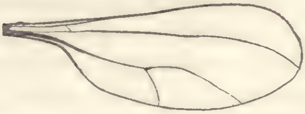
Cecidomyia Meig. Three or four longitudinal veins; in the first case the third vein is forked, thus representing the third and fourth veins, which are coalescent in the greater part of their extent (figs. 1, 2, and 4; in some rare cases a branch of this fork or the whole fork becomes obsolete, as in fig. 3); in the second case all the four veins are simple (fig. 5). Surface of the wings hairy; margins with long cilia. Antennæ long, moniliform or cylindrical, generally verticillate, seldom without verticils, from 13 to 36-jointed.

Fig. 1.



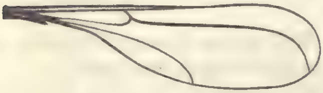
Cecidomyia.

Fig. 2.



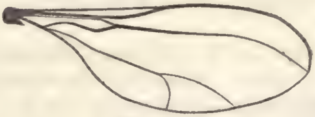
Diplosis.

Fig. 3.



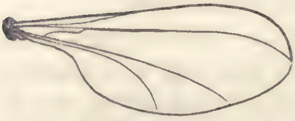
Colpodia.

Fig. 4.



Epidosis.

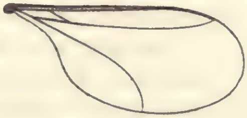
Fig. 5.



Asynapta.

Spaniocera Winn. Three longitudinal veins, which are all simple (not forked); the first close by the costa, the second at some distance from it, but reaching the margin of the wing before its tip (fig. 6). Hairs on the surface of the wing scaly. Antennæ filiform, 13-jointed, joints elongated, cylindrical, with a short pubescence and without verticils.

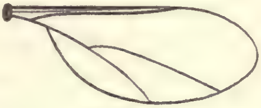
Fig. 6.



Spaniocera.

Lasioptera Meig. Three longitudinal veins, the first and second of which run very near the costa and are so closely approximated as to be hardly discernible (fig. 7). Wings rather short and broad. Antennæ from 16 to 26-jointed; joints subglobular, sessile, with short verticils. (The sub-genus *Clinorhyncha* Lw. has been formed of the *Lasiopteræ*, having the mouth prolonged in a rostrum.)

Fig. 7.



Lasioptera.

The considerable number of species contained in the genus *Cecidomyia* Meig. and the great variety of their structure have made a subdivision necessary. The following tabular arrangement of the sub-genera now adopted has been extracted, with a few modifications, from Mr. Winnertz's work, although the subdivision itself is chiefly due to Mr. Loew.

CECIDOMYIA Meig.

I. Wings with three longitudinal veins, the third either forming a fork (figs. 1, 2, and 4), or becoming more or less obsolete towards the tip (fig. 3).*

A. Cross-vein placed between the root and the tip of the first longitudinal vein, as in figs. 1—3: (in this section the cross-vein is frequently almost obsolete.)

Cecidomyia Loew. The second longitudinal vein reaches the margin of the wing a little *before* its tip (although in most cases this distance is very short, as in fig. 1). Generally *the same number of joints in the antennæ of the* ♂ *and* ♀; joints either pedicelled or sessile (sometimes pedicelled in the ♂ and sessile in the ♀; sometimes of the same structure, pedicelled or sessile, in both sexes).

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* In examining the wings of the Cecidomyiæ, care must be taken not to mistake for a vein a longitudinal fold which generally exists between the second and third longitudinal veins.

Diplosis Loew. The second longitudinal vein reaches the margin of the wing *at* or *beyond* its tip (fig. 2). *Antennæ of the male* 26 (2 + 24) *jointed,* sometimes with one rudimental joint more; joints pedicelled, simple joints alternating with double ones (Tab. I, f. 11 and 12), seldom all joints simple. *Antennæ of the* ♀ 14 (2 + 12) *jointed,* sometimes with one rudimental joint more; joints pedicelled, cylindrical.

Asphondylia Lw. The second longitudinal vein reaches the margin of the wing a little *beyond* its tip (as in fig. 2). Antennæ of both sexes with the same number of joints; the latter cylindrical, sessile, with a short pubescence and *without verticils.* (A single European species is known.)

Hormomyia Lw. The second longitudinal vein reaches the margin of the wing either *at* or *beyond* the tip. *Thorax more or less gibbose, frequently extending over the head in the form of a hood.* Joints of the ♂ antennæ pedicelled; those of the ♀ pedicelled or sessile.

Colpodia Winn. The second longitudinal vein forms a curve before the cross-vein and joins the margin a little beyond the tip of the wing (fig. 3). Cross-vein rather large, oblique. (A single European species is known in the female sex only; the joints of its antennæ are pedicelled. This sub-genus, which is unknown to me, must be very difficult to distinguish from *Epidosis.*)

B. Cross-vein very oblique, originating at the root of the first longitudinal vein (fig. 4).*

Dirhiza Lw. Second longitudinal vein hardly undulating before the cross-vein; joints of the antennæ sessile or almost sessile in both sexes. (A single species is known.)

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* The sections A and B, as defined by MM. Loew and Winnertz, seem to be somewhat difficult to distinguish. According to the latter, the cross vein in the section B almost assumes the appearance of an intercalary longitudinal vein; it begins at the root of the first longitudinal vein, runs, although very indistinct, alongside of it and then turns obliquely towards the second longitudinal vein, which thus almost appears to be its continuation, or, in other words, to have two roots.

Epidosis Lw. Second longitudinal vein sinuose before the cross-vein (fig. 4); joints of the antennæ pedicelled in both sexes; their number variable.

II. Wings with four longitudinal veins (fig. 5).

Asynapta Lw. The cross-vein is sometimes like that in section A, and then the second longitudinal vein is not sinuated; sometimes as in section B; then the second longitudinal vein is sinuated, like in *Epidosis* (fig. 5); in this case also the collare is a little prolonged.

The classification of the section *Anaretina* Loew, is very imperfect; almost nothing is known about their habits, and even their position in the system is doubtful. Mr. Loew considers them, at least provisionally, as a sub-section of the *Cecidomyidæ*, whereas Mr. Winnertz prefers to isolate them as a distinct family, placed between the *Cecidomyidæ* and the *Mycetophilidæ*, and having many points of relationship to both.

Following the authority of Mr. Loew in this volume (p. 7), I will confine myself to the enumeration of the genera which he refers to this section, adding only short sketches of their characters as I find them in the former writers.

I. Ocelli extant;
  Wings bare or almost bare; third longitudinal vein forked, the two following veins simple.
    Antennæ 16-jointed; ♂ verticillate, joints pedicelled; ♀ pubescent, joints sessile; branches of the fork of the 3d longitudinal vein very arcuated at base (fig. 8, wing). ZYGONEURA *Meig.*
    Antennæ 9-jointed, short, slightly pubescent; joints subsessile, subglobose (fig. 9, wing). ANARETE *Hal.*
  Wings pubescent;
    Third longitudinal vein forked.
      The upper branch of the fork forms a double curve, almost in the shape of an S; (see Plate I, fig. 13.) TRITOZYGA *Lw.*
      The upper branch of the fork forms a single smooth curve; ♂ antennæ 16-jointed, verticillate, joints pedicelled; ♀ antennæ 10-jointed, pilose, joints moniliform (fig. 10, wing). CATOCHA *Hal.*

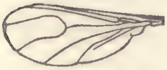
Fourth longitudinal vein forked; antennæ 11–20-jointed; ♂ moniliform, pilose; joints pedicelled; ♀ submoniliform, joints sessile, pubescent (fig. 11, wing). CAMPYLOMYZA *Meig.*

II. Ocelli wanting; third longitudinal vein forked; first longitudinal vein very short; wings pubescent; antennæ ♂ moniliform, verticillate; ♀ submoniliform, pubescent.

Antennæ 16-jointed (fig. 12, wing). LESTREMIA *Macq.*

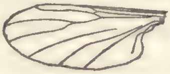
Antennæ 11-jointed. CECIDOGONA *Lw.*

Fig. 8.



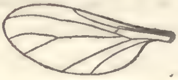
Zygoneura.

Fig. 9.



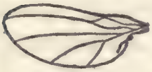
Anarete.

Fig. 10.



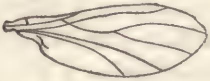
Catocha.

Fig. 11.



Campylomyza.

Fig. 12.



Lestremia.

For further details as well as for the references, see Walker, Diptera Britannica, Vol. III, which also contains beautiful figures of all the genera. As to the new genus *Tritozyga* Lw., formed on an American species, Mr. Loew thus characterizes it in a manuscript note of his:—

"The whole structure of its body shows the nearest relation to *Campylomyza;* the form of the legs and wings is as in that genus; the wings (Tab. I, fig. 13) have the same short pubescence and cilia, and the three ocelli are just as distinct. The differences are the following. 1. The vein, which in the second section of *Cecidomyidæ* is added to the number of the veins of the first section, is not simple, but forked, in the new genus, and therefore approaches in some measure the genus *Anarete;* 2. The very thick longitudinal vein is not forked as in *Campylomyza*, but simple. The new genus cannot be confounded with *Anarete*, the species of which have a much more slender structure, a very elongated first joint of the tarsi and the third longitudinal vein of the wing bipartite as far as the base. From *Lestremia* and *Cecidogona* it differs in quite a similar manner, and besides by the presence of ocelli, which are wanting in both genera. The antennæ are mutilated in the single specimen which I have before me (a male from the District of Columbia), therefore I can say nothing of the number of their joints; their structure is as in most *Campylomyzæ.* The number of the joints of the antennæ being of a higher value, among the Gall-gnats, for the distinction of species than for that of genera, since almost every genus comprises species with very different numbers of joints of the antennæ, I abstain from giving a name to the species known to me so incompletely; as to the genus, which can never be mistaken, I propose for it the name of *Tritozyga.*"

II. *On the habits of the* CECIDOMYIDÆ.

The food of the larvæ of *Cecidomyia* is of a vegetable character. A few apparent exceptions will be mentioned below. They furthermore seem to live in preference on *living* plants; nevertheless several species of the subgenera *Epidosis* and *Diplosis*, have been reared by Mr. Winnertz from decaying wood; *Cec. fuscicollis* Meig. (?) has been reared by Bouché from decaying bulbs of tulips and hyacinths. (Instances like that of *Cec. bicolor* Bouché, found in dung during winter, must be received with caution, as the larvæ may have gone there for transformation only.) Although the majority of these larvæ attack the soft and green parts of plants, some of them live under the bark of trees, in the cones of pines (*Cec. strobi* Kalt.) or in fungi (*Diplosis polypori* Wz., *Asynapta lugubris* Wz., etc.)

Again, most of the larvæ are monophagous, that is, each species lives exclusively on a certain species of plant, or, at least on closely allied plants; Mr. Winnertz remarks that even those found under the bark of trees follow the same rule. Exceptions are *Cec. sisymbrii* Schr., which, according to Mr. Winnertz, inhabits in May and June a gall on *Berberis vulgaris*, and from June till November a somewhat different gall on *Nasturtium sylvestre* (Winn. l. c. p. 209 and 231); *Cecid. arcuata* Wz., has been found in the pappus of different syngenesists, in decaying wood and fungi. Besides these, there is a class of larvæ which live as guests or parasites in galls formed by other *Cecidomyiæ* (*Cec. acrophila* Wz. and *pavida* Wz. live socially in the deformed buds of *Fraxinus excelsior; Diplosis socialis* Wz. inhabits the gall of *Lasioptera rubi; Dipl. tibialis* Wz., has been reared from the same gall with *Cec. salicina* Schr., etc.); or by *Acari* (*Cec. peregrina* Wz., and similar cases, observed by Loew.) Some even live in the society of *Aphides.* According to Mr. Winnertz the larvæ of the subgenus *Diplosis* principally, share these parasitical habits; even those living under the bark of trees or in fungi are seldom found alone, but for the most part in the society of other larvæ (Winn. l. c. p. 206). Thus, the larva of a species of *Diplosis* has been found in a stem of *Sarothrium scoparium*, together with larvæ of *Hylesinus* and *Apion*.

Among the larvæ with an exceptional mode of life, those should be mentioned which live *on the surface* of the plant, as that, observed by Mr. Loew on the leaves of *Veronica Beccabunga*, or those of *Diplosis ceomatis* Wz., and *D. coniophaga* Wz. found on the leaves of a rose-bush overgrown with the fungus *Ceoma miniatum*, on which they feed. The American species, probably also a *Diplosis*, which I have called *Cec. glutinosa*, and which will be described below, has a similar mode of existence on the surface of hickory leaves.

The greater number of larvæ penetrate inside of the plant, so as to be concealed from view during their development. Their presence is generally indicated on the outside of the plant by some deformation. Every part of the plant, from the root to the flower and the fruit, is liable to such attacks. But each species of *Cecidomyia* always attacks the same part of the plant, and deforms it in the same way. (Exceptions seem to be rare; *Cec. tremulæ* Wz. has been reared from two galls of different shape, both found on the poplar; the insects differed only in size).

The deformations thus produced are very numerous, and several unsuccessful attempts have been made to classify them according to the nature of their origin and their shape. At one extreme of the series is the true gall, a vegetable growth of constant and definite form, attached to the plant by a very small portion of its surface and not otherwise deforming that part of the plant (of this class are, for instance, the numerous galls, described below, on the leaves of the hickories); at the other extreme is the simple deformation, folding of a leaf, swelling of a leaf-rib, arrest of the growth of a bud or a stalk, etc.

The egg of *Cecidomyia* is elongated, rounded at both ends, orange-yellow, or whitish. The time within which the larva is hatched is very different, and depends on the state of the weather; in a great heat, the hatching sometimes takes place within a few hours; generally a few days are required. Mr. Loew supposes, however, that the species having but one yearly generation remain much longer in the state of eggs.

When first hatched, the larva is colorless, transparent, with a translucent green, yellowish or red stomach; later in life it assumes different shades of red (orange, pinkish, cochenille-red) or becomes yellow or whitish; the color of the same species may also somewhat change with age. All these larvæ have the extraordinary number of fourteen joints, thus affording an apparent exception from all other larvæ of insects, which, as a general rule, have thirteen joints. The supernumerary fourteenth joint is placed between the head and the first thoracic (stigma-bearing) segment. It may be considered either as a part of the head, or as a prolongation of the first thoracic segment. Number and position of the stigmata are normal; one pair on the first thoracic segment, and eight pairs on the first eight abdominal segments, so that the ninth or last segment bears none. Sometimes the last pair of stigmata is removed from its usual lateral position, more towards the middle of the segment. In one case (*Cec. pini* Deg. and the American *C. pini inopis*) this last pair is placed apparently on the *last* segment; but this segment is in reality the eighth, the ninth segment being in this larva unusually small and concealed under the eighth. The stigmata are horny, more or less nipple-shaped projections.

The skin of most larvæ appears finely chagreened under a strong magnifying power; in some cases it is perfectly smooth. The dorsal segments of *Cec. sarothamni* Lw., *C. genistæ* Lw., etc. are uneven; those of *C. craccæ* Lw., *C. quercus* Lw., *C. fuscicollis* Bouché, etc. are furnished with bristles or sparse hairs; those of *C. entomophila* Perris with hairs arranged in regular rows; those of *Cecid. pini* Degeer, and of two larvæ which I found in this country (*Cec. pini inopis* O. S. and *Cec. glutinosa*, nov. sp.), have rows of fleshy, setiferous caruncles along the back. (It is to be noticed here that both Degeer and Dufour, in describing such larvæ, mistook the back for the venter, and described these caruncles as *pseudopods*. See Deg. Mém. VI, Tab. XXVI, fig. 9—19, and Dufour, Ann. Soc. Ent. de Fr., 1838, p. 293).

The last abdominal segment is smooth and rounded, or furnished with two setiferous tubercles (*Cec. pini*), sometimes uneven and bristly, or excavated, or armed with a pair of horny processes, frequently curved upwards. Dufour saw a larva use these processes for leaping.

The structure of the head and of the organs of the mouth is but imperfectly known. What Mr. Ratzeburg saw (see his paper in Wiegmann's Archiv, vol. vii. p. 233, with a plate) and what I have found confirmed by my own observations, may be reduced to the following: The horny parts of the head consist of a ring with two processes extended backwards; a soft, fleshy swelling which protrudes through this ring is taken by Ratzeburg for the labium; two openings in the upper part of the ring emit a pair of two-jointed organs which this author and L. Dufour believed to be palpi, but which I would rather consider as rudimental antennæ, especially on account of their position on the upper side of the head. (Laboulbène and Perris entertained the same view.)

On the under side of the body, at the juncture of the first thoracic segment with the supernumerary (14th) segment, there is a horny, more or less elongated piece, projecting with its anterior part, whereas its posterior end is concealed under the skin of the first thoracic segment, and more or less translucent. This organ, the use or the homology of which is unknown, is peculiar to the larvæ of *Cecidomyia*, and seems to be seldom wanting. (I found under the bark of a tree a full-grown larva which, for its structure I believe to be a *Cecidomyia*, although it showed no trace of this breastbone.) It may be that this organ is used for locomotion, although I hardly would consider it as homologous to the pseudopods of the larvæ of *Chironomus* and *Ceratopogon*. If the supplementary (14th) segment be considered as a part of the head, this breastbone might be taken for the mentum, in analogy to the horny mentum of the larvæ of the *Tipulariæ*. The form of this organ is variable in different species; sometimes it ends anteriorly in two points, with an excavation between them; sometimes in one elongated point; or it is serrated, etc.

The remaining part of the under side of the body sometimes shows other organs of locomotion. The larva of *Cec. entomophila*, according to Perris, has three slender, elongated, pointed, subcorneous, approximated projections in the middle of every ventral segment. *Cec. fuscicollis* Bouché (Bouché, Naturg. der Ins. p. 25), has a pair of elongated, pointed pseudopods under each thoracic segment, and three such pseudopods under each abdominal segment. Bouché's figure of the latter closely resembles Perry's figure of the pseudopods of *Cec. entomophila*.

The motions of the larvæ, except those few, living on the surface of the leaves, are generally slow; but those which change their abode before assuming the pupa state become very active about that period. Winnertz observed an extraordinary activity in some such larvæ after a thunder storm; they left their hiding-places under ground, and crawled about restlessly for some time; they did the same after every thunder storm, some of them even two months after having left their galls.

The larvæ of several species, for instance, *Cec. loti*, *Cec. pisi*, and *Cecid. rumicis*, have the power of leaping. Mr. Loew remarks that all such larvæ belong to the sub-genus *Diplosis*. *Cec. populi* Duf. performed its leaps by straining the horny hooks at the tip of its abdomen against the under side of the thoracic segments. (Dufour, Ann. Sc. Nat., 2e sér. XVI, p. 257.)

"The want of horny organs of mastication," says Mr. Winnertz, "authorizes the supposition that a lesion of the plant does not take place; it is much more probable that the larva has the power of producing in the plant some peculiar irritation, which causes an overflow of the sap necessary for its food. How little the larva requires for its support is evident from the circumstance that it attains its full growth and development in a gall just large enough to inclose it, a gall apparently hermetically closed, for the most part with hard walls, which do not show the least sign of internal lesion. It seems even as if a certain amount of moisture alone was sufficient to sustain these larvæ, especially when a great number of them live socially in the same gall (from ten to fifteen larvæ in the pea-sized bud of *Cardamine pratensis;* from fifty to sixty in another kind of gall, etc.). Another proof of the small quantity of nourishment required by these larvæ is, that no excrements are to be found in their place of abode."

"The only exception known to me of this extreme frugality," says the same author, "are the larvæ of two species which live on the leaves of the white rose, attacked by the fungus *Ceoma miniatum*. These larvæ not only lick the sap exuding at the bottom of the heaps of spores, but they also greedily consume the spores themselves, and their intestinal canal is always filled with them."

The observation of Vallot (Mém. de Dijon, 1827, p. 95), that a larva of *Cecidomyia* (*C. acarivora*) found on the surface of the leaves of *Chelidonium* feeds by sucking *Acari*, as yet requires confirmation. Winnertz saw *Cecidomyia*-larvæ living as guests in deformations produced by *Acari*, greedily lick their hosts, but he never found in such galls an empty skin of an *Acarus*. As to the larvæ of *Cecidomyia* inhabiting galls, produced by other species of the same genus, it is a question, according to Winnertz, whether they take the same food with their hosts, or live on their excrements. Perris (Mém. de Lille, X, p. 274, with figures) found *Cecid. entomophila* in an insect-box, living on the excrements of the minute *Acari* abounding in such boxes; he compares them, apparently with good reason, with the larvæ of *Cecidomyia* found under the bark of trees, among the excrements of the xylophagous insects. These larvæ underwent their transformation in the corners of the box.

It is very probable that the larvæ of *Cecidomyia*, like most of the dipterous larvæ, do not undergo several moultings. I do not find any mention about it in the authors. Only Dr. Harris states that *C. tritici* casts off its skin before going under ground for transformation.

Before assuming the pupa state, some larvæ of *Cecidomyia* leave their galls and abscond themselves under ground, under dry leaves or moss, or under the bark of trees. Other larvæ, on the contrary, undergo their transformation within their gall.* In both cases the pupæ are frequently, although not always, inclosed in a cocoon. Winnertz positively denies that the larvæ spin this cocoon; according to his observation, the latter is, so to say, *exuded* by the larva. He found that larvæ which had fastened themselves to a leaf, were encircled within twenty-four hours by a white halo, consisting of tiny thread-like particles, which seemed to grow somewhat like crystal-needles; the larva during this time remained perfectly motionless. The cocoon is perfected within a few days, and even then, under a strong magnifying power, no genuine thread is perceptible.

The mode in which the pupa state is assumed has been described by Dr. Harris in a posthumous paper published in the Proceedings of the Boston Soc. of Nat. Hist., 1860, p. 179. "The approaching change is marked by an alteration of the color of the anterior segments of the larva, which (in the case of *Cecid. salicis* Fitch) from orange become red and shining, as if distended by blood. Soon afterwards, rudimentary legs, wings, and antennæ begin, as it were, to bud and put forth, and rapidly grow to their full pupal dimensions, and thus the transformation to the pupa is completed." The peculiarity of this process is, that the transformation is undergone *without shedding the larva skin*, and, as the same observation has been repeated by Dr. Harris on the larvæ of *C. destructor* Say and *C. tritici* Kirby, it is very probable that it applies to all the larvæ of the genus. I do not find this fact mentioned in the European authors.

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* The larva of *Cecid. terminalis* Lw., according to Winnertz, varies in its habits. It sometimes goes under ground, and sometimes transforms within the willow leaves deformed by it.

Instead of a cocoon, the pupa of *Cec. destructor* Say is inclosed in an oblong, brown case, which is nothing but its own hardened pupa-skin. "The larva of this insect, says Dr. Harris (*l. c.*), when it has come to its growth, remains fixed and motionless on the culm of the wheat. Its body contracts and soon takes the form and color of a flax-seed. While this change is going on externally, the body of the insect gradually cleaves from its outer dry and brownish skin. When this is carefully opened, the included insect will be seen to be still in the larva state. It does not change its condition until a few days before it discloses the winged insect," etc.

Cecid. graminicola Kalt. and another *Cecidomyia*, mentioned by Dr. Fitch as forming an imbricated gall on *Agrostis lateriflora*, undergo a similar kind of transformation, their pupæ being inclosed in the dry larva-skin.

However different the mode of transformation of *Cecid. pini* Deg., *C. pini maritimæ* Duf., and *Cec. pini inopis* O. S. may appear, the pupæ of which are inclosed within a cocoon of resin, it is in perfect analogy with the preceding instances. The process by which the cocoon is formed is exactly the same as that described above by Dr. Harris. The larva of the American species *C. pini inopis* O. S. observed by me in the environs of Washington, fastens itself to a pine leaf and remains motionless until the resinous substance which it exudes abundantly, begins to harden; the larva then gradually frees itself from the contact of the cocoon-like case thus formed. It is very probable that this cocoon is nothing but the outer larva-skin, saturated with resin.

The pupæ of *Cecidomyiæ* show a close resemblance to those of the *Tipulæ fungicolæ*, especially those of *Sciara*. As in the latter genus, the bases of the antennæ are often produced in points; these *frontal projections* are sometimes long, approximated, and resemble horns (*Cec. sarothamni*, see Winnertz, l. c. Tab. I, f. 6, or *Cec. verbasci* Dufour, Ann. Sc. Nat., 3e sér., Vol. IV, p. 5–24, with figures, 1845); in other cases they are smaller and at some distance from each other (*Cec. salicina*, *C. veronicæ*, etc., see Wz., l. c. f. 3, 4). Behind these horns, two pairs of bristle-like processes may be observed in most pupæ. The first pair is also on the head, close by the horns, the second on the thorax. Both vary in size and strength in different species. The second, thoracic pair, has been taken by some authors for a spiracle. These projections and horns, especially the frontal ones, aid the pupa in working its way through the gall or from underground, before entering its last stage of existence. The dorsal segments of the abdomen are, for the same purpose, frequently rough with spines. The tip of the abdomen is sometimes smooth; in other instances it bears a few bristles.

After the exclusion of the perfect insect, the pupa-skin remains frequently hanging on the outside of the gall.

Some species of *Cecidomyia* have only one, others more than one yearly generation. The summer generation of the latter kind remain but a short time in the pupa state; the winter generation much longer.

The larvæ of *Lasioptera* resemble those of *Cecidomyia* in their structure as well as in their habits. They frequently have the same reddish color and the peculiar breast-bone. *L. rubi* Heeger and the N. American *L. vitis* O. S. produce swellings in the stem of the plants which they inhabit. *L. pusilla* Heeger forms galls on the leaves of *Sonchus*, *L. cerris* Kollar on those of the oak (*Quercus cerris*).

III. *On the North American* CECIDOMYIÆ *hitherto observed and their galls.*

The species of N. A. *Cecidomyiæ* at present known, may be distributed into three categories, according to the extent of our knowledge concerning them. About the species of the first category, nothing but the description of the perfect insect is extant, its habits remaining unknown; as to those of the second category we are acquainted with the first stages of their existence, especially with the deformations they produce, without knowing the perfect insect; finally, to the third category belong those, the habits of which, as well as the perfect insect, are described.

The following is a synopsis of the species recorded by previous authors, as well as of those mentioned in this paper:—

I. Perfect insect described, habits unknown.

C. ornata Say, Long's Exped. App. p. 357. Wied. Auss. Zw. I, 22, 2.

C. caliptera Fitch.
C. cerealis Fitch.
C. tergata Fitch.
C. thoracica Fitch.

} Dr. A. Fitch, Essay on the Wheat-fly, etc.

C. spongivora Walk. List of Dipt. Brit. Mus. I, 30.

Campylomyza scutellata Say, Journ. Acad. Phil. III, 17, 1. Wied. Auss. Zw. I, 22, 1.

Tritozyga, sp. Lw. (see p. 178).

Diplosis maccus Lw. The following note on this new species was furnished by Mr. Loew:—

"Gall-gnats cannot be recognizably described from single dried specimens, unless they are distinguished by some striking peculiarities. I feel no temptation at all to describe species which have no such peculiarities, and allow myself an exception only with the following *Diplosis* on account of its remarkable beauty.

D. maccus Loew. ♂ and ♀. (Tab. I, figs. 11 and 12.)—Flavida, thorace fusco-vittato, antennarum articulis nigris et pallidis alternantibus, alis violaceo-maculatis, tibiis tarsisque nigro-annulatis.

Yellowish, thorax with fuscescent stripes; the joints of the antennæ alternately black and whitish; wings with violet-blue spots; tibiæ and tarsi annulated with black. Long. corp. 0.08. Long. al. 0.11.

Yellowish; the joints of the antennæ alternately black and yellowish-white, the simple joints being black, the double joints yellowish-white; also the hairs of the black joints are black, and those of the light ones light. Thorax with three brown longitudinal stripes coalescing anteriorly, the intermediate one reaching only to the middle of the thorax, the lateral ones running as far as its posterior margin. Abdomen without dark bands. Coxæ yellowish. Fore and middle femora black on the upper side and tips, the outermost extremity of the tip being yellowish; hind femora with a black line not reaching far beyond the middle, and with the tips black. Tibiæ black; anterior ones with a very broad yellowish ring beyond the middle, the hind ones with such a ring at their base and a second ring beyond the middle. Anterior tarsi black on the first, short joint, at the base of the second and at the tips of the second, third and fourth joints; the hind tarsi have the same markings with the exception of the base of the second joint, which is not black. Poisers yellowish, the base of the knob blackish. Wings yellowish, appearing almost golden yellow in an oblique direction, with bright spots of a violet reflection. Before the second longitudinal vein there are two such spots, the first immediately beyond the tip of the first longitudinal vein, the second between the first and the tip of the second longitudinal vein. Between the second and third longitudinal veins there are three violet spots, the first of which is the largest; it is situated under the first costal spot and runs far towards the base of the wing in the form of a wedge without sharp limitation; the second is the smallest, and is placed below the yellowish space between the two costal spots; the third is a double spot almost S shaped, and united to the second costal spot with its anterior end. Behind the third longitudinal vein the violet color prevails to such an extent as to leave only two golden spots, one of which is placed behind the anterior branch and the other immediately behind the posterior branch of the third longitudinal vein. The cilia of the wings are quite pale yellowish, but blackish where the violet spots reach the margin of the wing.

Hab. Washington. (Osten-Sacken.)

This species resembles very much the European *Diplosis pavonina* Loew, but is easily distinguished from it by the smaller extent of the violet color of the wings, the smaller extent of the black color of the legs, and the sharper limitation of both colors. Whether the male of *Diplosis pavonina* has likewise the joints of the antennæ alternately dark-colored I do not know, as I did not succeed in discovering it; judging, however, by the appearance of the antennæ of the female, this does not seem to be the case."

II. Galls or larvæ known, perfect insect unknown. (The description of these galls and larvæ is given below, under the indicated numbers.)

On hickories, *Carya*, of different kinds, seven species, besides one belonging to the third category. (Nos. 1—8.)

On the golden-rod, *Solidago*, of different kinds, two species, besides other two belonging to the third category. (Nos. 9—12.)

On *Vaccinium* (or *Gaylussacia ?*), one species. (No. 13.)

On the scrub pine (*Pinus inops*), two species. (Nos. 14 and 15.)

On the red maple (*Acer rubrum*), one species. (No. 17.)

On the ash (*Fraxinus americana*), one species. (No. 18.)

On the oaks of different kinds (*Quercus*), four species. (Nos. 19—22.)

On the wild grape (*Vitis*), one species (No. 24), besides another belonging to the third category.

On the hornbeam (*Carpinus americana*) one species. (No. 25.)

On the tulip-tree (*Liriodendron tulipiferum*), two species. (Nos. 26 and 27.)

On the willow (*Salix*), one species (No. 28), besides one belonging to the third category.

On *Impatiens fulva*, one species. (No. 30.)

On the blackberry (*Rubus villosus*), one species. (No. 31.)

On *Agrostis lateriflora* (?), one species. (No. 32.)

III. Perfect insect described, and its habits known.

On the cereals (wheat, rye, etc.).

C. destructor Say. *C. tritici* Kirby.	About the habits of these well-known insects, see Dr. Harris's Treatise, etc., and Dr. Fitch's papers: The Hessian Fly (Trans. N. Y. State Agric. Soc., vol. VI), and The Wheat Fly (ibid. vol. V).

C. culmicola Morris. See Dr. Harris's Treatise, p. 465.

On the locust (*Robinia pseudoacacia*).

C. robiniæ Hald. Amer. Journ. Agric. and Sc., vol. VI, 193. Harris, Treatise, etc., p. 452. (Haldeman's paper is also reproduced in the Proc. Boston Soc. of Nat. Hist., vol. VI, January, 1859.) The larva lives upon the leaves, the margins of which it deforms into a roll. It is evident, from Mr. H.'s description of the perfect insect, that it belongs to the sub-genus *Diplosis*. (See also Fitch, Reports, vol. II, No. 332.)

C. pseudoacaciæ Fitch, Reports, vol. II, No. 331. The larvæ injure the tender young leaflets near the tip of the stem, causing them to be folded like a little pod (in July and August). They transform under ground.

On the gooseberry (*Ribes uva crispa*).

C. grossulariæ Fitch, Reports, vol. I, p. 176, and vol. II, No. 150. The berries turning red prematurely and becoming putrid, contain the bright yellow larvæ. Dr. Loew thinks that the perfect insect belongs to the sub-genus *Asphondylia*. (See p. 7.)

On the willow (*Salix rigida* and *S. lucida*).

C. salicis Fitch, Am. Quart. Journ. Agric. and Science, vol. I, p. 263. (See also Dr. Harris's paper in Proc. Bost. Soc. Nat. Hist., vol. VII, January, 1860.) The gall is a woody tumor, surrounded by the dry and brittle terminal bud, at the tips of the twigs. It contains but a single larva. The name of the species must be changed, as there is already a European *C. salicis*. I propose to call it *C. rigidæ*.

On the alder (*Alnus serrulata*).

C. serrulatæ O. S. (See below, No. 16.)

On the hickory (*Carya*).

Diplosis caryæ O. S. (See No. 1.)

On the wild grape.

Lasioptera vitis O. S. (See No. 23.)
On the golden rod (*Solidago*).
C. solidaginis Lw. (See No. 9.)
C. hirtipes O. S. (See No. 10.)
On *Chrysopsis mariana*.
C. chrysopsidis Lw. (See No. 29.)

In comparing this list with similar enumerations existing for European *Cecidomyiæ*, but few cases of analogy will be found. Such cases are, for instance, the habits of *C. pini inopis*, nov. sp., which correspond exactly to the European *C. pini* Degeer; the gall of *C. strobiloïdes*, nov. sp., on the willow, which is represented in Europe by *C. strobilana* Bremi; the analogy between the gall on *Fraxinus americana* (No. 18) and that of *C. botularia* Wz. of the European ash, is more doubtful; likewise that between the deformation of *C. erubescens*, nov. sp. (No. 20) on the oak leaves, and a similar deformation described by Mr. Loew (*C. quercus* Lw.)

Two galls occur on the American wild grape, whereas none has been discovered on the European grape; likewise, although eight galls are already known to occur on the hickory (*Carya*), none is recorded as belonging to the European walnut (*Juglans*). Although galls have been found on the European maple, alder, and blackberry, they are different from those recorded below on the American species of these trees and shrubs. *Robinia*, *Liriodendron*, and in some degree *Solidago*, being peculiar to America, their galls could not, of course, be expected to be found in Europe.

I will proceed now to give a condensed description of the observations which I had occasion to make on *Cecidomyiæ* during my residence in this country. These observations were made in the environs of Washington, unless otherwise mentioned. I have followed a practice adopted in Europe, in giving names to species known only on account of the deformations they produce, the perfect insect not having as yet been reared. This affords the advantage of being able to designate each described gall by a fixed name. In order, however, to distinguish such species from those the gall-fly of which has been reared and described, the first are simply put down as new species (n. sp.), whereas the names of the authors have been mentioned after the specific names of the latter (Lw. or O. S.)

1–8. On hickories (*Carya*) of different kinds.

The numerous galls of *Cecidomyiæ* occurring on the hickory are found indifferently on the various species of this tree. I have noticed also that whenever a spot is found where one of the galls occurs in abundance, some of the other kinds are sure to be found. Thus the galls of *Cec. holotricha* and those of *Diplosis caryæ*, or those of the latter with the galls of *Cec. tubicola* are frequently met with on the same leaflet.

These galls may be distributed as follows (the numbers from 1 to 8 corresponding to those of the descriptions given below): A. True galls, fastened to the under side of the leaf and breaking off easily. *a.* Bare. 1. *Subglobular*, with a small nipple at the tip, diam. 0.05 to 0.1. 2. *Elongated onion shaped*, a little larger than the preceding. 3. *Conical*, contracted at base, blood red or purplish. 4. *Cylindrical*, erect, inserted in a cylindrical socket. *b.* Pubescent. 5. Subglobular, with a nipple at tip (or short onion shaped), pubescent with ferruginous. 6. Subglobular, without nipple at tip, finely downy. B. Other deformations. 7. Swelling of the midrib at the base of the leaf. 8. Yellow spots on the leaves; larva living on the leaf, not within it.

1. *Diplosis caryæ* O. S. Gall subglobular, smooth, seedlike, 0.05 to 0.1 in diameter, with a small nipple at the tip. In summer they are yellowish-green and their shell is soft; in winter they become brownish, and the shell, although thin, is hard and woody. They begin to grow in June. I gathered them in October, when the larva was full grown.

Each gall contains a single larva; it is white, and stouter in proportion to its length than most larvæ of *Cecidomyia*. The breast-bone has two sharp points anteriorly, with an excavation between them; the tip of the last abdominal segment has no horny processes. It undergoes the transformation within the gall. The pupa resembles, by the structure of its head, that of *C. sarothamni* Wz., figured by Mr. Winnertz in his monograph (*l. c.* tab. I, f. 6); namely, the pointed projections at the basis of the antennæ are closely approximated and not remote, as in other species.

After having kept these galls on moist sand all winter, I obtained the fly in April. (Description drawn from a fresh specimen.)

D. caryæ O. S. ♂ and ♀.—Antennæ pale; ♂ 26-jointed; alternate joints a little larger than the intermediate ones; verticils moderate; pedicels between the joints rather short; ♀ 14-jointed, joints subsessile; front and mouth pale; collare with a blackish edge posteriorly, ending on both sides in a short, black streak on the pleuræ; thorax pale, with three broad, almost contiguous blackish or grayish stripes; the intermediate one is subcuneiform and slightly capillary towards its posterior end, which, for this reason, appears slightly bifid; it does not reach the scutellum; the lateral ones are rounded anteriorly, narrowed posteriorly, and end just before the scutellum in a short, black streak, communicating with a brown triangle on the side of the scutellum, so that the latter, being pale itself, is inclosed on both sides by the black streaks and the brown triangles; a couple of black dots are visible on the pleuræ; a pale brown spot on the pectus, between the first and the second pair of coxæ; a brown spot at the basis of the halteres, which are pale; abdomen reddish, hardly darker laterally, and with a tuft of hair on each side, near the posterior margins of the segments; legs pale, with a minute, appressed black pubescence, which makes them appear blackish; wings immaculate; the second longitudinal vein joins the costal at the apex of the wing or immediately beyond it; cross-vein indistinct or none.

2. *C. caryæcola*, n. sp. Gall somewhat larger than the preceding, elongated onion-shaped, with the tip prolonged in a point, pale green. Found through the summer either in separate clusters, or mixed with other galls, for instance that of *C. holotricha*.

3. *C. sanguinolenta*, n. sp. Gall conical, narrowed at the basis, blood red or purplish, about 0.15 high and 0.12 broad. I found them for the first time about the middle of July. At this time they were solid inside, except a narrow hollow near the basis which contained the small, somewhat yellowish larva, with a distinct, pointed, spear-shaped breast bone. These galls occur in numerous clusters on the same leaflet.

4. *C. tubicola*, n. sp. Gall narrow-cylindrical, erect, about 0.15 or more long. They break off easily, being inserted in a small protuberance on the leaf, with a sharp-edged socket in the centre, in which the cylinder fits exactly. Their color, when ripe, is more or less brownish, pale greenish at base. They are hollow inside and contain in October a whitish larva with a breast bone ending anteriorly in a single, elongated point. They generally occur in clusters. Some of these galls are found covered with a viscous fluid.

Early in summer I frequently found a gall of the same form, but smaller, generally reddish at the tip and easily distinguished by the absence of the basal piece in which the other is inserted; it is simply fastened to the leaf by a minute pedicel. Besides, it occurs always singly, frequently on the edges of the leaves, whereas the other gall is for the most part found in clusters. Is it the same species?

5. *C. holotricha*, n. sp. Subglobular, pubescent, onion-shaped galls. Diam. up to 0.1 or a little more.

They resemble the galls of *D. caryæ* in shape, but are somewhat larger and covered with a pubescence which is pale when the gall is young and growing, and becomes rust-colored in the stage of ripeness. I have observed two modes of occurrence of these galls; either they are scattered in numbers, as many as a hundred on the same leaflet, or they grow in a row along the mid-rib of the leaflet; in the latter case they are generally larger, and being packed close together, assume an irregular shape. It is very probable that these two forms belong to two different species, and in this case I would retain the above name to the first form. Galls of the first form begin to grow in June; in September and October I found the white larva apparently full grown. The breast-bone has one elongated point anteriorly and two projections on both sides, about the middle. At the same time I find in my diary that in some of these galls (it is not distinctly stated which), I had found a *pale orange*, apparently full grown larva, with the breast-bone ending anteriorly in two triangular points with a rectangular excision between them.

6. *C. persicoïdes*, n. sp. Gall round, 0.1 to 0.2 in diameter, smooth, without nipple-shaped tip, yellowish or red, clothed with a delicate down like that of peach, and looking somewhat like a diminutive fruit of this kind. I found these galls more seldom than the others.

7. *C. cynipsea*, n. sp. Rounded, irregular, hard swelling on the under side of the hickory-leaf, on the midrib, near the base of the leaf, about half an inch long. When I found it (in July) it was pale yellowish, and contained, in several small hollows, minute whitish larvæ, with a breast-bone narrowed anteriorly and ending in a point.

8. *C. glutinosa*, n. sp. The small yellowish-orange larva forms no gall, but lives in the open air on the under-side of the leaf, to which it is attached by a viscous substance probably secreted by

the leaf. The presence of the larva is indicated on the other side of the leaf by a round yellow spot. The structure of the larva is peculiar: it has rows of fleshy, pointed tubercles along its back, like the larva of *C. pini inopis* (described below), with which it agrees in some respects in its habit of fastening itself to the surface of the leaf by means of a viscous substance.

9. *C. solidaginis* Lw. Gall on *Solidago* produced by the arrest of the growth of the stalk, which causes the leaves to accumulate round the same spot and thus to produce a large imbricated deformation. It begins to appear already in July, but the flies escape only late in the fall. The following description of gall and fly have been prepared by Mr. Loew:—

"The gall (Tab. I, fig. 8) represents a globular head of the size of 1½ to 2 inches formed by hundreds of leaves, the exterior ones being only little altered, the interior ones becoming more and more narrow; on a closer examination we easily perceive that this structure results from the coalescence of several deformations at the tips of abortive twigs; in a specimen which I dissected I counted five such shortened twigs. At the top of each twig there is a single gall, without compartment, somewhat of the shape of a very small seed, and having in its interior a cavity widened a little underneath. The tip of one of them (Tab. I, fig. 10) showed at its end three small convergent lobes, giving it the appearance of being produced by three coalescent leaves. I could not discover this structure in the others; I found only a rounded, rather irregular opening at the tip. The insect which produces this deformation likewise belongs to the genus *Cecidomyia* in the restricted sense.

C. solidaginis Loew. ♂ and ♀. (Tab. I, fig. 4—7.)—Fusca, abdomine fasciis rufis et nigris picto; antennarum flagellum in mare articulis 20 vel 21, in fœminâ circiter 18; alæ pilosæ, nigricantes, venulâ transversa nullâ; terebra fœminæ modice elongata.

Fuscous, abdomen with black and red bands; flagellum of the antennæ with 20 or 21 joints in the male, with about 18 in the female; wings hairy, blackish, without transverse veinlet; borer of the female moderately long. Long. corp. ♂ 0.16, ♀ 0.17. Long. al. ♂ and ♀ 0.16—0.17.

Thorax with the pleuræ sometimes brown, sometimes dark fuscous, with black hairs. Abdomen of the female with distinct black and red transverse bands, the latter less distinct in the male; hairs of the abdomen blackish with a lighter reflection. Antennæ of the male with 20 or 21 brown flagellar joints with rather long peduncles, the uppermost being much smaller than the preceding; the verticillate hairs very long and rather light. The female has generally some flagellar joints less, and its joints are round, with shorter hairs and without any peduncle. The female ovipositor has a very moderate length and is little pointed. Legs of the female black without white reflection. Legs of the male much longer and more slender than those of the female; hind tibiæ and tarsi everywhere with a white reflection, which, on the fore and middle tibiæ and tarsi, is chiefly seen on the under side. Poisers black. Wings blackish on account of their close and long hairs; between the first and second longitudinal veins no transverse vein is visible; the second longitudinal vein towards its end is very little curved exteriorly; the anterior branch of the third longitudinal vein is distinct and nearly straight." (Description drawn from dry specimens.)

10. *C. hirtipes* O. S. Rounded gall at the tip of stunted stalks of *Solidago*, sometimes nearly an inch in diameter, smooth, brownish on the outside, solid inside, containing several larvæ in different compartments. I found them in August, and obtained the fly on the 17th of September.

C. hirtipes O. S. ♀.—Antennæ reddish-black, 22-jointed, joints short, subcylindrical, almost subglobular, gradually decreasing in size towards the tip, separated by pedicels which are shorter than the joints, verticillate-pilose; head dark reddish with black hairs on the vertex; eyes contiguous on the front; thorax blood-red, its back blackish, the usual three stripes being almost coalescent and separated by rows of erect black hairs; collare blackish above; pleuræ blood-red, with indistinct black dots; scutellum and metathorax red, the first with black hairs; halteres reddish at base, the club deep black; abdomen red, upper side of the segments with a blackish, apressed, rather sparse pubescence; coxæ reddish, feet deep black; wings with a dense, blackish pubescence; costa black, especially along its middle portion; second longitudinal vein reaches the margin at or close by the tip of the wing; cross-vein indistinct. (Description drawn from a fresh specimen.)

11. *C. carbonifera*, n. sp. Pale, circular spots, surrounded by

a purplish-black ring, on the leaves of *Solidago;* under each spot, inside of the leaf, several larvæ. I found them commonly in August, and observed that the hollow space within the leaf was frequently filled with a hard, black substance, not unlike charcoal.

12. *C. racemicola*, n. sp. Bud-shaped gall among the racemes of *Solidago*. It has about 0.1 in diameter, is green, and looks exactly like a bud, but is easily distinguished from the buds of *Solidago* by its stout, rounded form. Each gall contains a single reddish larva. Not rare in September.

13. *C. vaccinii*, n. sp. Gall on the leaf of *Vaccinium* (or *Gaylussacia?*), in the shape of a cock's comb. I found near Washington, in October, one single leaf with two galls of this kind, arising from the central rib. The largest of the galls was about 0.15 high and 0.2 broad about the middle. They were green, and resembled pretty much a cock's comb, or, still better, an oyster, fastened by its hinge. After having been kept for some time on moist sand, both burst open exactly like the valves of a shell, and a reddish larva escaped from each. Both wandered for some days in the bottle in which I kept them, and inclosed themselves afterwards in delicate semitransparent cocoons, formed above the surface of the sand, between some chips of paper which I had provided for them. Unfortunately, both died without undergoing their final transformation.

14. *C. pini inopis*, n. sp. Resinous cocoon on the leaves of the scrub pine (*Pinus inops*). Similar cocoons have been observed on the European pine, and described a century ago by Degeer. Ratzeburg, in his *Forst-Insecten*, describes and figures the same cocoon, as well as the larva and the perfect insect, *C. pini* Deg.* Dufour (in the Ann. Soc. Entomol. de France, 1838, p. 293) gives an account of a *Cecidomyia* with precisely similar habits, which he observed on the South European pine (*Pinus maritima*), and which he called *C. pini maritimæ*.

The larva producing these cocoons is remarkable for two rows of oblong, pointed, fleshy protuberances along its back, and a similar row on each side. (See Ratzeburg, Forst-Insecten, III, Tab. x, f. 14, L.) Early in April I saw some of these larvæ emerge from a small hollow between two terminal buds, where they had probably spent the winter, and crawl along the leaves, aided in this by a resinous substance which they exuded abundantly. Having reached a certain height on the leaf, they stop and remain quiet till the resinous substance covering them becomes hard and assumes the shape of an oblong, whitish, semi-transparent cocoon. Then the larva may be seen moving to and fro inside of this cocoon. I did not succeed to rear the fly from the cocoons which I brought home, and when I returned to the same spot in the woods about a month later, the cocoons were already empty.

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* See the same figures of cocoon and larva in Wiegm. Archiv, etc., vol. VII, p. 233.

According to Ratzeburg's statement the European species spends the winter in the cocoon. The American species, as just shown, forms its cocoon only in the spring. As, nevertheless, it may be identical, or at least closely allied to *C. pini* Degeer, I subjoin here the description of the latter, translated from Mr. Winnertz's monograph. (Compare also Ratzeb. l. c. III, p. 159.)

C. (*Diplosis*) *pini* Degeer. ♂ Antennæ somewhat longer than the body, brown, basal joints yellow, verticils snow-white; joints strong, stout, on short pedicels, double joints three times as long as the pedicel, the last joint with a very small, nipple-shaped projection; hypostoma and front pale reddish or brown; palpi reddish-yellow; thorax brownish-black or black, with two rows of white hairs from the collare to the scutellum, and one row from the shoulder to the origin of the wing; pectus blackish; pleuræ reddish-brown; halteres white; abdomen reddish-brown, with white hair, forceps blackish; feet brown with white articulations, under side silvery-white; posterior feet with a silvery-white reflection when viewed in a certain light; wings milky white, with a white pubescence, the costal and the two first longitudinal veins brown, the third longitudinal vein pale; transverse vein pale, but distinct, very oblique, situated a very short distance beyond the middle of the first longitudinal vein; third longitudinal vein straight, turning towards the posterior margin in an obtuse, rounded angle; the second longitudinal meets the costal immediately beyond the tip of the wing.

♀ Antennæ a little more than half as long as the body, brown with gray verticils, basal joints yellow; joints of the flagellum about five times as long as the pedicel, last joint ending in a small bud-shaped appendage; hypostoma reddish-yellow; front reddish-brown; palpi and thorax as in ♂; halteres brown; abdomen reddish-brown, with short whitish hairs, more dense and with a silvery reflection laterally; ovipositor short, yellow, with two small oval lamels; femora and tibiæ and the anterior pair of tarsi superiorly black or black-brown; inferiorly white with a silvery reflection; the posterior tarsi have the two basal joints black or black-brown superiorly, silvery white inferiorly; the three last joints are silvery white, sometimes with blackish articulations; wings gray, iridescent with a dense, blackish-brown pubescence and brown veins; cross-vein distinct, very oblique, situated a little before the middle of the first longitudinal vein; second longitudinal as in ♂, the third likewise, although almost perpendicular to the posterior margin. Length ♂ ♀ 0.1 to 0.15.

15. *C. brachynteroides*, n. sp. Swelling at the basis of the leaves of the scrub pine (*Pinus inops*). In consequence of this swelling the pairy leaves diverge, their bases coalesce, and the sheath at the basis of the bunch bursts. In July these swellings contain several small reddish larvæ; in winter I found them empty, but having observed some larvæ hanging on cobwebs near these galls, I conclude that they undergo their transformation under ground, and were caught in these cobwebs in the attempt to leave the gall.

The habits of this Cecidomyia seem to be very like those of *C. brachyntera* Schwägr. living at the base of the pairy leaves of the European *Pinus sylvestris*. Still, the latter produces no gall or swelling whatever, and causes the leaves only to wither; it also goes under ground for transformation. (See Ratzeburg, Forst-Insecten, Vol. III, p. 160.)

16. *C. serrulatæ* O. S. Deformed terminal buds of the common alder (*Alnus serrulata*).

The buds appear enlarged, rounded, pointed at the tip, having from three to five lines in diameter. In autumn they are greenish; in winter withered, brown, and frequently covered with a whitish efflorescence. Each gall contained in October from two to six reddish larvæ, lodged in the same compartment. In winter the galls are found empty, as the larvæ go under ground. By keeping some of these galls, gathered in October, on moist earth, I obtained the fly in the following April. It belongs to the sub-genus *Cecidomyia* Loew. The description has been drawn from fresh specimens.

C. serrulatæ O. S. ♂ and ♀.—Head and antennæ brownish; mouth and palpi paler; antennæ 18-jointed in both sexes; joints verticillate and on moderately long pedicels (♂); subcylindrical, subsessile (♀); thorax blackish superiorly, the usual three stripes being coalescent; their intervals are indicated only by longitudinal crests of erect hairs; a reddish spot before the scutellum; the latter brownish with two black streaks at the basis; sternum brownish; the rest of the thorax, as well as the abdomen, are of a bright red, especially in the ♀, where this red color is more apparent, the abdomen being so much more distended; dorsal segments of the abdomen brown (which color is produced by numerous and exceedingly minute scales, appressed to the body); stem of halteres pale, knob obscurer; basal half of femora pale; their apical half, tibiæ and tarsi brownish; wings margined with a brown pubescence anteriorly and round the apex, especially in the ♀; cross-vein not apparent; the second longitudinal vein reaches the margin a short distance before the apex.

17. *C. ocellaris*, n. sp. Ocelliform, red spots on the leaves of the red maple (*Acer rubrum*). They have about 0.3 in diameter; the margin is bright cherry red, and there is a round patch of the same kind in the centre. The interval between them is pale. They appear brighter on the upper side of the leaf; on the under side in the centre is a small depression occupied by a small, transparent, colorless larva. I found them in this state at the beginning of June. Later in the season I observed that the spots had lost their fresh color, and that the larva had disappeared; I suppose it drops to the ground to undergo its transformation.

18. *C. pellex*, n. sp. Rounded oblong, succulent, subpellucid galls on the ribs of the leaves of the ash (*Fraxinus americana*). Diameter, 0.15 to 0.2. They are pale green, and the more ripe ones are slightly colored with brownish. The principal convexity is on the upper side of the leaf; on the under side the leaf-rib appears swollen, pale green in the middle, and whitish on both sides. Each gall contains a whitish larva; some of these galls were double. There were one or more (as many as six) galls on the same leaf. Towards the end of June I found many of these galls shrivelled and dry, and suppose therefore that the larvæ had gone under ground. A gall apparently similar to this has been discovered on the European ash, and described by Bremi and Winnertz.

19. *C. niveipila*, n. sp. Deformation of oak leaves, consisting of a large fold with a white pubescence on the inside. It begins very early in the spring on the young leaves of the white oak and other kinds of oak. The egg is probably deposited on the upper

surface of the leaf, on one of the ribs. The irritation caused by the larva produces a fold or cavity in the leaf, lined inside with a white pubescence. The under side of the leaf shows on the corresponding spot the swollen rib, which is pale green, bordered on both sides by the same white pubescence. The galls, according to their size, contain more or less larvæ, sometimes ten or more. When this deformation is very large, it involves the whole leaf, which is folded in two along the midrib, the under side forming the outside of the fold, and showing the swollen ribs with the white pubescence in their intervals. On the 25th of May I found some of the galls considerably grown, thick, and swollen; their pubescence was of the brightest white; the larvæ they contained were also grown, plump, white. Other galls, on the contrary, had grown but little, and appeared sickly or withered. They contained no larvæ at all, or their inmates appeared yellowish and sickly. I suppose that some of them were attacked by parasites, as I found a minute hymenopterous larva fastened to the skin of one. In June some of the galls which I brought home were abandoned by their inmates, which went under ground for transformation, but perished soon afterwards.

The larva of this gall is white, and has two small horny processes, directed upwards, at the anal end of the body; its breast bone is truncated, heart-shaped anteriorly.

20. *C. erubescens*, n. sp. Folded margin of an oak leaf, tinged with red. This deformation seems to resemble that of *C. quercus* Lw. on the European oaks. Occurs in the spring.

21. *C. symmetrica*, n. sp. Hard red gall on the leaves of different kinds of oak, small and round (between 0.05 and 0.1 in diameter) when single, but more commonly assuming an irregular shape by the coalescence of a number of them.

I find them chiefly and in large numbers on leaves of *Quercus falcata* in autumn. They sometimes invade almost the whole surface of the leaf, and have exactly the same size and shape on both its sides. The single round galls contain one larva, the compound ones a number of them, depending on the size of the gall, but each in its own compartment. The red substance of the crust shows many cracks, when the gall is ripe, and is easily detached. Under it is a harder, almost woody, yellowish substance. When the dry leaves with such galls fall to the ground, the red part of the crust generally crumbles away in part, partly it is found erect, forming a jagged fence round the gall. Such galls are generally empty, the larvæ having perhaps gone under ground, although one of the specimens which I brought home was inclosed in a delicate cocoon inside of the gall.

The larva is reddish, and has the usual breast-bone with a deep excision in the middle anteriorly; the two lobes thus formed are rounded.

These galls, as I remarked before, protrude symmetrically on both sides of the leaf. On other kinds of oak, especially the quercitron oak (*Q. tinctoria*), I found similar galls, but on the upper side of the leaf only, without the corresponding excrescence on the under side. Those I brought home were abandoned by their larvæ, which went under ground. Thus I am very uncertain about the identity of both galls, as well as about the habits of the insects. As all these galls were found with larvæ late in autumn, it is evident that the fly escapes very early in the spring.

22. *C. poculum*, n. sp. The so-called *oak spangles* (Fitch, Rep., vol. II, No. 40), small, circular, somewhat saucer-shaped scales, from 0.1 to 0.2 in diameter, reddish or purplish, covered with a white efflorescence, attached to the leaf by a short pedicel, common in autumn on different kinds of oaks, are generally found empty. In the beginning of August I found a similar gall, yet succulent and greenish, on the post oak (*Q. obtusiloba*), and inside of it a small whitish larva having all the appearance of the larva of a *Cecidomyia*, although, on account of its minuteness, I did not succeed in discovering the breast-bone.

Dr. Fitch is in error when he states that these galls are "perfectly the same" as those noticed by Westwood, Introd., II, p. 130. The European galls of this kind are pilose externally, as stated by Westwood and figured by Réaumur (Mém., vol. III, Tab. XL, f. 13); the American ones, at least those which came under my notice, are smooth.

23. *Lasioptera vitis* O. S. Swelling of the stem and leafstalks of the wild grape. This irregular succulent swelling, which becomes red on its stouter and riper portions, extends not only along the stem and leafstalks, but also invades the leaf-ribs. It contains round hollows of about 0.1 in diameter with an orange-yellow larva in each. Some of the hollows are often abandoned by their inmates and invaded by numerous *Thrips*. Having brought this

gall home, I noticed that the larvæ went under ground and obtained the fly on the 29th of June.

L. vitis O. S.—0.04 long, pale reddish, head blackish, antennæ black, apparently 23-jointed, filiform, joints broader than long, sessile, with a short pubescence (they answer exactly Winnertz's figure of the antenna of *L. rubi* Wz., *l. c.* Tab. IV, f. 14), two basal joints yellow, thorax blackish above, with a golden pubescence near the collare and down to the origin of the wings; scutellum pale reddish, abdomen covered superiorly, on each segment, with rows of blackish scales; legs pale reddish, wings with gray pubescence, anterior margin with a black fringe of hairs.

24. *C. viticola*, n. sp. Elongated, conical, red galls, 0.25 to 0.3 long; on the upper side of the leaves of the grape.

On the 16th of July, when I found them, they contained pale orange larvæ, the breast bone of which had two points anteriorly, with several small indentations between them. The tip of the body ended in two curved, horny points, directed upwards.

25. *Cecid. pudibunda*, n. sp. Fold on the leaf of the hornbeam (*Carpinus americana*), tinged with red on the outside. It is generally situated between two of the side ribs, and runs, therefore, obliquely towards the central rib. Inside of this fold I found, on the 15th of June, exceedingly small whitish larvæ; when magnified they appeared semi-transparent, with an orange spot about the middle of the body, and with numerous short, erect bristles; the head is distinct, as well as two short antennæ; although I did not perceive the breast-bone, I have no doubt, from the appearance of these larvæ, that they belong to this genus.

26. *C. liriodendri*, n. sp. Brown spots with a yellow or greenish aureole on the leaves of the tulip-tree (*Liriodendron tulipifera*).

These spots, about 0.2 or 0.3 in diameter, indicate the presence, inside of the leaf, of a leaf-mining larva of *Cecidomyia*. It is about one line long, orange, the exserted portion of the breast bone is truncated heart-shaped; the tip of the body has two short, horny points, directed upwards. (Similar spots on the same tree are produced by a lepidopterous larva.)

27. *C. tulipiferæ*, n. sp. Swelling of the midrib of the leaf of the tulip-tree. One of these swellings, which I found on the 27th of July, contained several pale orange larvæ of *Cecidomyia*. They had two short, erect, horny points at the end of the body;

the protruding portion of the breast-bone consisted of two triangular projections with a triangular excision between them.

28. *C. strobiloïdes*, n. sp. Terminal buds of the willow (the species is not known to me) deformed in the shape of the cone of a pine. This deformation, communicated to me by Mr. Rob. Kennicott, who found them abundantly in northern Illinois, is an inch or more long and contains several reddish larvæ under each scale, so that the total number of the larvæ in one gall is very considerable. A precisely similar gall has been observed by Mr. Bremi on one of the European willows, and is figured in his monograph (Denkschr. d. Schweitz. Ges. für Naturk., Vol. VIII, tab. II) under the name of *Cec. strobilana.* The perfect insect likewise remained unknown to him.

29. *C. chrysopsidis* Lw. The gall (Tab. I, f. 1) occurs in September on *Chrysopsis mariana* and was communicated to me by Prof. Schaeffer in Washington. Gall and fly are described by Mr. Loew as follows:—

"The gall consists of a woollen knob of nearly the form and size of a very small walnut. On the sides there are single projecting leaves, which appear to have undergone no deformation; at the upper end the leaves of the extremity of the shoot seem to be a little shortened. On removing the rather long hairs of the knob, the interior may be observed to consist of a very great number of single galls, which have no compartments, and coalesce here and there. Each of these galls has an obconical form, unless modified in consequence of its coalescence with the neighboring ones; and it is covered exteriorly with hairs growing longer towards the upper end, and resembling the pubescence on the stem and leaves of the plant. In its interior there is a cylindrical smooth cavity, which the perfect insect leaves through a small round opening of the upper end. This opening apparently does not exist during the larva-state of the insect, since together with galls which were furnished with it, and had been abandoned by the perfect insects, I found some which had no opening and contained the imagos dead.

"The small Gall-gnat which produces this deformation belongs to the genus *Cecidomyia* in the restricted sense, and may be called *Cecidomyia chrysopsidis.*"

C. chrysopsidis Loew. ♂ and ♀. (Tab. I, figs. 2 and 3.)—Rufa, thorace fuscano, antennarum in mare articulis 17, in fœminâ 15; alæ pilosæ, cinereæ, venulâ transversâ nullâ; terebra fœminæ longissima.

Red, thorax fuscous; flagellum of the antennæ 17-jointed in the male, 15-jointed in the female; wings hairy, cinereous; no transverse veinlet; the borer of the female very long. Long. corp. ♂ 0.1, ♀ 0.14. Long. al. ♂ and ♀ 0.13.

Red, on the upper part of the thorax fuscous, with very short hairs. Pleuræ with brown spots. Abdomen with indistinct brown bands. The hairs of the abdomen very short, appearing light-colored. Antennæ of the male with seventeen (the right-hand side antenna of one specimen with eighteen) joints of the flagellum; joints on moderately long peduncles; the two last are usually welded together; the verticillate hairs on them are very long and rather light. The female generally has two flagellar joints less, and they are rounder, with shorter hairs and without any peduncle. Legs dark fuscous, in some directions with a bright sericeous reflection; tips of the knees whitish. Poisers very pale, with the knob almost whitish. Wings rather dark gray on account of their close pubescence; between the first and second longitudinal veins no transverse vein is apparent; the second longitudinal vein, towards its end, is very little arcuated exteriorly. The anterior branch of the third longitudinal vein is rather indistinct." (Description drawn from dry specimens.)

30. *C. impatientis*, n. sp. Succulent swelling at the base of the flower of *Impatiens fulva*, in September; contains red larvæ. (Communicated to me by Prof. Schaeffer.)

31. *C. farinosa*, n. sp. Rounded woody swelling at the base of the leaflets or on the midrib of the common blackberry; contains red larvæ.

32. *C. agrostis*, n. sp. Mentioned in Dr. Fitch's paper: The Hessian Fly, etc. (Trans. N. Y. State Agric. Soc., Vol. VI), on p. 38 of the second edition, in pamphlet form, in a note which I reproduce here: "I doubt whether the Hessian fly will continue to be the sole member of this genus having a coarctate pupa. Quite recently a species has occurred to my notice analogous to the Hessian fly flaxseed in every point that I have been able to detect, except that its larva-case is of a pale brown color, untinged with rufous or castaneous. It infests the *Agrostis lateriflora?* numbers dwelling together in an imbricated gall, somewhat resembling

the fertile aments of the hop, though larger, and connected with the main stalk by a short pedicel which is inserted into one of the lowest joints of the culm. From the coriaceous texture of the larva case, I suspect the inclosed worm will not leave it until transformed to a pupa and upon the point of evolving the perfect fly." It deserves to be noticed that *Cecid. graminicola*, discovered by Kaltenbach (Winnertz, l. c. p. 292), having precisely similar habits, forms an apparently analogous gall, likewise on a herbaceous plant, *Poa nemoralis.*

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ADDITIONS AND CORRECTIONS.[1]

Page 2, line 2 from the bottom, for *of the* Bibionidæ read *of some* Bibionidæ. (Loew.)

Page 4, lines 2 and 5 from top, for *Stratiomydæ* read *Stratiomyidæ*.

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Page 6, line 6 from top, for *Culiocides* read *Culicoides*.

" 12, " 9 from bottom, strike out the first *and*.

" 16, " 4 from top, for *Therevidæ* read *Thereuidæ*.

" 16, " 15 " for *ending* read *end*.

" 18, " 18 from bottom, *Pachygastrina* should be in small capitals.

" 21, " 15 from top, for *Exelasis* read *Exetasis*.

" 21, " 9 from bottom, the word *varying* does not express exactly the intended meaning, which was that of the German words *geschweift*, *geschwungen*. (Loew.) I find, in Say's Terminology, this structure expressed by the words *repand*, *wavy*, which means *with alternate segments of circles and intervening angles*.—O. S.

Page 22, line 11 from top; same remark.

" 24, " 5 " for *Philodicus* read *Philonicus*.

25, " 11 from bottom, for *Usio* read *Usia*.

" 25, " 10 " for *Pleas* read *Ploas*.

" 25, " 5 " for *Autonia* read *Antonia*.

" 26, " 23 from top, for *Brachipalpus* read *Brachypalpus*.

" 27, " 9 from bottom, for *Stratiomydæ* read *Stratiomyidæ*.

" 27, " 8 " for *Dolichopidæ* read *Dolichopodidæ*.

" 27, " 17 " for *Stachinia* read *Stachynia*.

" 28, " 11 from top, for *Neurophocerus* read *Nephrocerus*.

" 36, " 9 from bottom, for *less* read *more*. (Loew.)

" 37, " 18 from top, for *Schoenomyza* read *Blepharoptera*. (Loew.)

" 50, lines 16 and 17 from top, for the words *and for crowding them* read *while the rest remain crowded*, etc. (Loew.)

Page 64, lines 3 and 5 from top, for *curvature* read *concavity*.

" 70, *Tryp. unicolor;* add *Cuba* to its habitat. (Loew.)

" 74, line 7 from top, for *Cederli* read *Cederh*.

" 78, " 1 " for *exceeds* read *reaches into*. (Loew.)

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[1] Many of the corrections have been communicated by Mr. Loew, to whom the signatures were sent; his name, however, has been mentioned after those only which are not readily understood, but require an especial authority.—O. S.

Page 84, *Tryp. solaris;* Wiedemann's and Winthem's collections possess this species from Brazil. (Loew.)

Page 94. Note to *Tryp. comma.*—One of my specimens from Maryland was compared by Mr. Loew with Wiedemann's original and found identical. The latter is a very pale specimen. It seems, therefore, that the elongated hyaline spot at the tip of the sixth longitudinal vein is of normal occurrence in this species.—O. S.

Page 115, line 8 from top, for *femoræ* read *femora.*

" 135, " 6 from bottom, for the words in brackets put *of the cinereous thorax.* (Loew.)

Page 140, line 5 from top, for *terminal* read *antennal.* (Loew.)

" 142, " 11 " for *steel-colored* read *steel-blue.* (Loew.)

" 144, " 15 " for *knob* read *knobs.*

" 155, " 12 " for *Philhygria* read *Philygria.*

Pages 174, 175. In figures 1–7, the third longitudinal vein is made too strong. Its fork especially is very delicate, sometimes hardly visible in nature, so that the difference between the wings represented on figures 3 and 4 (*Colpodia* and *Epidosis*), the one with, the other without, fork, is not at all so striking as appears in the wood-cuts.—O. S.

FURTHER ADDITIONS AND CORRECTIONS.

Page 11, line 4 from bottom, after the word *together* add *whiplash-shaped.*

" 11, " 2 " for *second* read *first.*

" 11, bottom line, for *first longitudinal* read *auxiliary.*

" 38, line 17 from bottom, for *short* read *long.*

" 63, lines 17 and 18 from bottom, for *seam* read *margin.*

" 111, line 4 from top, after the word *perpendicular* add *Hab. Middle States.* (*Osten-Sacken.*)

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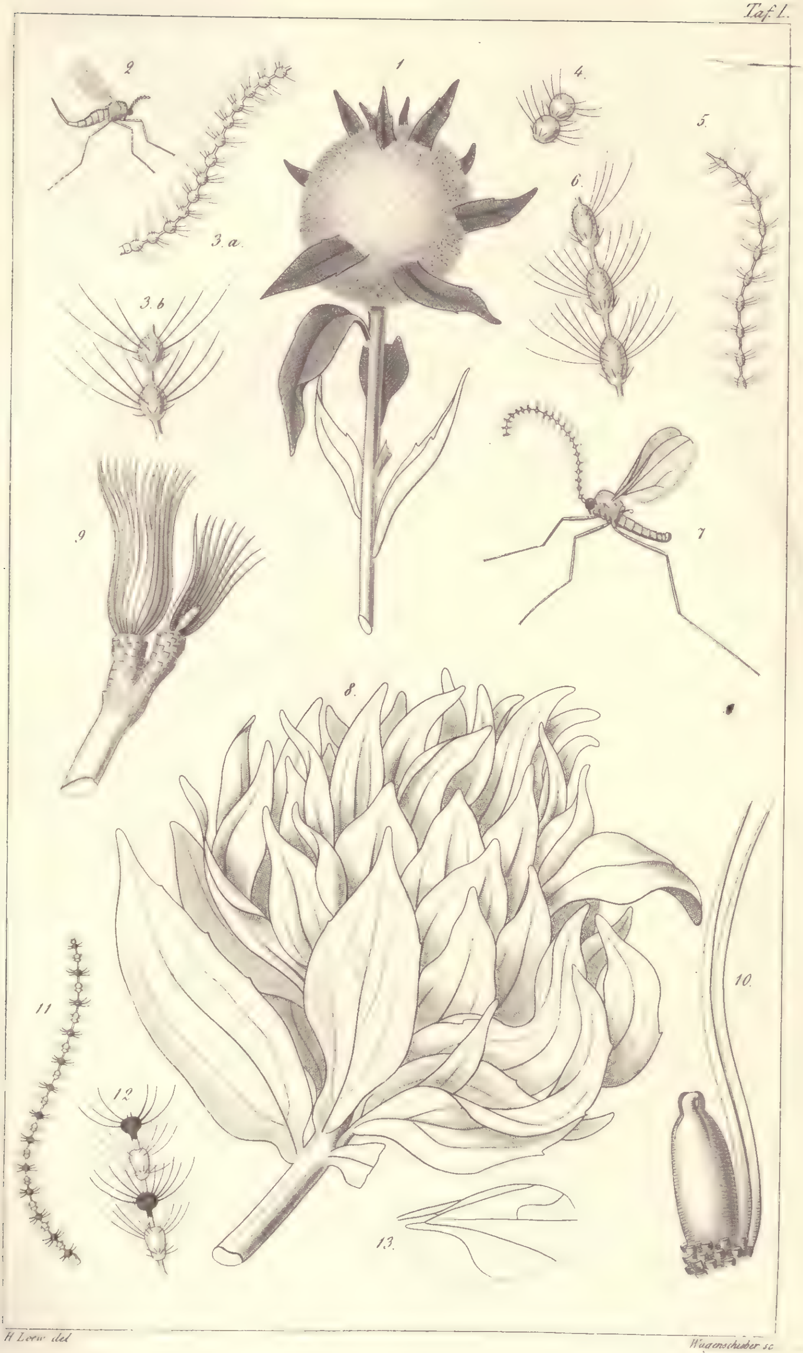
In the Index, *Autonia* should be read *Antonia*, and removed to its proper place accordingly, and *Blepharoptera* and *Philonicus* are to be added; and, on page 208, the word *destructor* (Cecidomyia) should be removed to the left, so as to be in the same line with the other specific names.

Taf. I.



H Loew del.

Wagenschieber sc.

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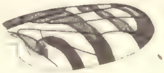

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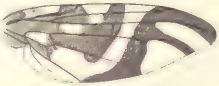

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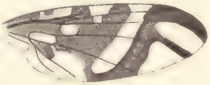

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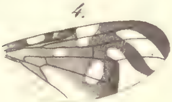

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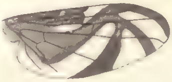

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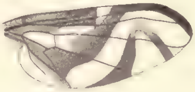

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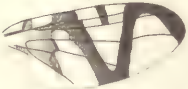

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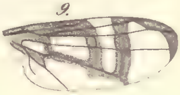

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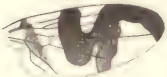

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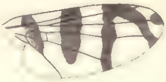

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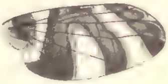

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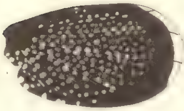

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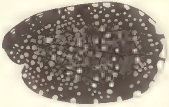

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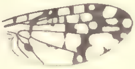

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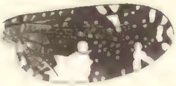

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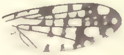

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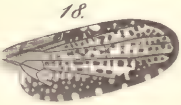

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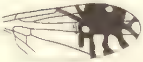

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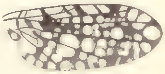

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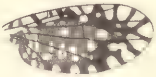

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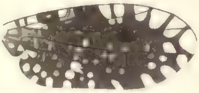

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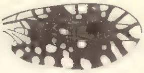

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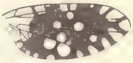

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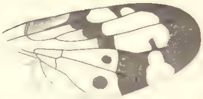

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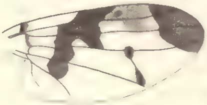

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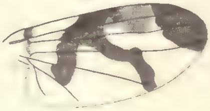

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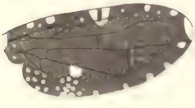

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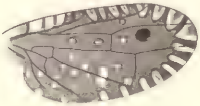

H. Loew del.

Wagenschieber sc.

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

171

MONOGRAPHS

OF THE

DIPTERA

OF

NORTH AMERICA.

PREPARED FOR THE SMITHSONIAN INSTITUTION

BY

H. LOEW.

PART II.

EDITED BY

R. OSTEN SACKEN.

WASHINGTON:
SMITHSONIAN INSTITUTION.
JANUARY, 1864.

ADVERTISEMENT.

The present publication is the second part of a work on North American Diptera in process of preparation by Dr. H. Loew, of Meseritz, Prussia, undertaken at the especial request of the Smithsonian Institution. The materials have been derived principally from the collection of Baron R. Osten Sacken, Consul-General of Russia in New York, kindly intrusted to the author for examination.

The work will appear in monographs of genera and families, sufficient materials being on hand for illustrating particular groups only, without relation to their systematic sequence.

The Institution is under obligations to Baron Osten Sacken for superintending the translation of the work from the German manuscript, and editing it, as well as for correcting the proof-sheets.

JOSEPH HENRY,
Secretary S. I.

Smithsonian Institution,
Washington, January, 1864.

PHILADELPHIA:
COLLINS, PRINTER.

PREFACE.

In the present work I have attempted to give a Monograph of the North American *Dolichopodidæ.* The geographical area embraced in it, as well as in my former Monographs on North American Diptera, is the same which has been adopted in Baron Osten-Sacken's Catalogue, comprising Mexico and Cuba. I readily acknowledge that by adopting such a wide area for the North American fauna, we introduce many species which, properly speaking, belong to a more southern fauna. But I was induced to adopt this course as much by the circumstance that I possessed many interesting species from Mexico and Cuba, as by the advantage of conforming to the plan of the Catalogue of Osten-Sacken, and thus affording a general view of the fauna of a larger extent of country. As the order of Diptera is remarkable for the wide geographical range of the species, and as, for this reason, the limitation of local faunas is more indefinite here than in most other orders, the adoption of this somewhat arbitrary limitation of the North American entomological area cannot present anything objectionable.

For the greatest part of the materials on which my work is based, I am indebted to the liberal and disinterested assistance of my esteemed friend Baron Osten-Sacken. Some very interesting species were communicated to me by Mr. Le Baron, of Illinois. The greater number of the species from Sitka was collected by Mr. Sahlberg, and communicated to me for description by Professor Maeklin in Helsingfors; some species of the same region are in the Museum of Berlin, and were obtained, if I am not mistaken, also from Mr. Sahlberg. The study of the types of Wiedemann's Collection, very liberally lent to me for examination by the Directors of the *Hofnaturalien Kabinet* in Vienna, afforded me information of the most valuable character.

Although the materials thus put at my disposal can be called abundant, they did not by far reach the extent which I could desire for the preparation of such a monograph. I hope, however, that new supplies will enable me soon to attempt a renewed and more thorough work on the same subject. I have to thank most cordially all those who have contributed by their collections towards the completion of this monograph, and at the same time I earnestly request all North American collectors who take any interest in the order of Diptera to favor me by similar communications. They can reach me either through the medium of the Smithsonian Institution or through Baron Osten-Sacken.

With regard to the systematic distribution, I have continued to build upon the foundation first laid by Mr. Haliday in his admirable paper on *Dolichopodidæ*, contained in Walker's *Diptera Britannica*, and later developed by me in the seventh part of my "*Neue Beitraege.*" To the genera, adopted and defined in those papers, I have added afterwards the genera *Plagioneurus* and *Lyroneurus*, based upon North American species. (Conf. Wien. Entom. Monatsschr. 1857, p. 37.) In the eighth fascicle of my "*Neue Beitraege,*" which was a prodrome to the present work, I have further added the genera *Pelastoneurus* and *Diostracus;* the first embraces some species which formed previously a sharply limited and well characterized group within the genus *Gymnopternus;* the latter was established for a species which, by its general habitus, reminds equally of *Thinophilus* and *Aphrosylus*, but is distinguished from both by the presence of distinct hairs on the upper side of the first joint of the antennæ. In the present publication I have added the new genus *Paraclius*, which combines the neuration of the wings of *Pelastoneurus* with some characters of *Gymnopternus* and at the same time is too distinct from the species of the latter genus, to remain united with it.

Thus the number of genera, the usefulness or necessity of which I at present recognize, amounts to forty-three. After a general introduction, I give a table for their determination, and then characterize them in detail at the proper place. It will hardly be necessary for me here to attempt to correct the misapprehension that the characters used for the construction of the table are at the same time the most important generic characters; far from such being the case, I have, but only in a few rare instances, tried to facilitate the discrimination of genera by preferring to use characters applicable only to North American species (for instance in the separation of *Gymnopternus* from the genera immediately following it).

The merit of the adopted distribution in genera has been tested and proved by the circumstance, that all the newly discovered species very easily found their proper place in it. Of course, all the genera cannot be considered as equally well established. Above all others, the distribution of the smaller species, for the most part neglected by collectors, as well as difficult to examine, still offers many obscure points. This is especially meant for the proper separation of the genera *Chrysotus* and *Diaphorus*. To escape the difficulty of defining the proper position of some North American species, showing the characters of both genera, I have been obliged to draw the line between the two in a somewhat different manner. The relation of the genus *Hercostomus* to *Gymnopternus* is likewise not very clear. A continued study of the structure of the known species and the discovery of new ones, will gradually remove this uncertainty and develop the systematic arrangement, so as to keep pace with such an increase of knowledge. I think, however, that I can give in general the positive assurance, that the location of the species described by me is a natural and not a forced one; the only exception is *Synarthrus barbatus*, in which the thumb-like projection of the second antennal joint upon the inside of the third is much smaller than in the other species of this genus. I possess this species only in a single, not well preserved specimen. As it can hardly be looked for in any other genus but this, I have deemed it more expedient to locate it provisionally here, than to found upon it a new, perhaps not justifiable genus.

I have taken pains to elucidate conscientiously the rather considerable number of species published by former authors. Unfortunately, most of these species were described without any regard to the most essential generic and specific characters, so that only in a very few cases have I been able to identify them. I have preferred not to use specific names the identification of which was not quite certain, as this would only have increased the confusion. If the identity of one or the other of the species published by me, with a previously described one, should be satisfactorily proved, I will always be ready to grant to the older name the priority over mine.

H. LOEW.

MESERITZ, July 1, 1862.

REMARKS.—I have a few words to add respecting the translation of this work, which was done under my care. The terminology used has throughout been that adopted in the first volume of these "Monographs." The term *antennal bristle* alone has been replaced by the shorter one, *arista*, used by English writers. It will perhaps not be amiss also to explain the sense of the terms *fore* and *hind* and their difference from *anterior* and *posterior* when applied to the feet or parts of the feet.

By *fore feet* (coxæ, femora, tibiæ and tarsi), corresponding to the German *vorderste Beine* and the Latin *pedes antici*, is meant the *first pair of feet* (or coxæ, etc.).

By *anterior feet* (corresponding to *vorderen Beine*, *pedes anteriores*), the *two first pairs* are to be understood. In this case, however, in order to avoid all possible misunderstanding, Mr. Loew has almost always used the expression "*the four anterior feet*," which was retained in the translation.

The same rule applies to *hind* (*hinterste*, *postici*) as indicating the last pair, and *posterior* (*hintere*, *posteriores*) meaning the two last pairs.

OSTEN SACKEN.

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DIPTERA

OF

NORTH AMERICA.

PART II.

VI.

ON THE NORTH AMERICAN DOLICHOPODIDAE.

INTRODUCTION.

The *Dolichopodidæ* are among those families of diptera which show but so few points of relationship to others that it is impossible to name any family of a particular affinity to them. A superficial glance, it is true, seems to point out the *Ephydrinidæ* and the genera of the *Tachydromidæ* in the vicinity of *Clinocera* as the nearest to the *Dolichopodidæ;* but a closer examination will show that, instead of a true relationship, there are merely some points of external analogy between them, points common to most insects (and not only diptera) preferring to live in the vicinity of water. The want of a true relationship becomes immediately apparent when any portion of their inner or outer organization is submitted to a comparative scrutiny. The neuration of the wings of the *Dolichopodidæ* alone is so peculiar that it is sufficient in itself to distinguish this family not only from the *Ephydrinidæ* and the above-mentioned group of *Tachydromidæ,* but also from all other families of the order. This neuration, together with the brilliant-green color of the greater part of the species, renders the *Dolichopodidæ* one of the most easily recognizable families of diptera.

The peculiarities of the neuration, which is shaped in general according to the type of the *Diptera acalyptera* (compare Monographs, etc., I, page xxiv, fig. 1), are the following in this family: The costal vein extends as far as the tip of the fourth longitudinal vein; the auxiliary vein does not run towards the costa, but towards the first longitudinal vein, stopping quite far from its tip, and either coalescing entirely with it or disappearing without having joined it. The third longitudinal vein emerges from the second not far from its root, and both veins form at this place a more or less knot-shaped swelling; the small cross-vein (often quite obsolete) is at, or close by, this swelling, so that the first basal cell is unusually short; the discoidal cell, much narrowed towards its base, is coalescent with the anterior of the two small basal cells in consequence of the absence of the vein separating them. The posterior small basal cell (the so-called *anal cell*) is small and rounded at the end. The sixth longitudinal vein does not generally reach the border of the wing; sometimes it is entirely wanting, and in this case the anal cell becomes indistinct. The alar appendage (*alula*) is so narrow that it may be considered as wanting.

Although all *Dolichopodidæ* agree in the above-described peculiarities of neuration, still this same neuration affords very good and abundant characters for the distinction of the genera and the species; the length and direction of the first longitudinal vein vary considerably, the position of the posterior transverse vein also; the most striking characters, however, are taken from the structure of the last portion of the fourth longitudinal vein, which is subject to considerable variation, being sometimes parallel to the third longitudinal vein, sometimes more or less convergent with it, sometimes straight, often curved or bent abruptly in the middle, or even broken. In the latter case, the angle formed by the strong flexure or fracture sometimes bears a rudiment of a branch-vein, which in some cases (as in most *Psilopus*) is long enough to make the vein appear forked.

For the purpose of distinguishing the *Dolichopodidæ* from the other families of diptera the characters taken from the neuration are sufficient, and it is superfluous to have recourse to others taken from the rest of the body. It is different, however, if we intend to establish the natural character of this family. I will confine myself here to characters taken from the external organization, and as to the internal one, I will merely notice in passing that, in accordance with the external structure, it forms a striking contrast with the organization of all the other dipterous families.

The head of the *Dolichopodidæ* in general is more or less hemispherical. Its sides are occupied by the large, ovate, hairy eyes (naked only in *Medeterus*), which usually reach so far down that in most genera there are no cheeks (*genæ*) at all, and that on the under side of the head, between the eyes, there is just space enough for the large opening of the mouth, which, in some species, even encroaches upon a considerable portion of the occipital side of the head. The usually rather broad front bears three ocelli, protected by strong bristles, and several bristles in both corners of the vertex; the remainder of its surface has no bristles. The frontal fissure and lunule* are indistinct. The antennæ are three-jointed, of very different structure in different genera, nay even often in the sexes of the same species; the second joint is sometimes rudimentary. The arista is two-jointed, seldom altogether bare, generally with a very short pubescence, more seldom fringed with longer hairs or even plumose; its dorsal or apical position affords very constant distinctions between different genera; its length and the other characters belonging to it differ sometimes even in the two sexes of the same species. The face is usually vertical and smooth; it has often on its inferior third an elevated transverse swelling, or at least, on each side, near the orbit of the eye, a nodule-like elevation; seldom does the face reach down to the inferior angle of the eye; it is always without any bristles, although sometimes it is hairy; its lower edge is rather sharp, and does not coalesce with the border of the mouth; from under this edge project the single-jointed palpi, incumbent upon the proboscis (except in *Aphrosylus*, where they hang down on its sides); they are usually scale-shaped, more seldom lancet-shaped (for instance, in *Orthochile*) or round, pallet-shaped (in *Diostracus*); in the females they are usually considerably larger than in the males; sometimes however (in *Diostracus*), the opposite is to be found.

The proboscis is generally short and (with the exception of *Aphrosylus* and *Orthochile*) stout; its opening is wide, more or less surrounded by the protuberant suctorial flaps, which, by clapping together, shut the opening; the species of the genera with a large proboscis, especially their females, can altogether engulf small insects within their proboscis, as if they swallowed them, whereas they only suck them out and throw the remainder away. The horny parts of the mouth are short. The stout labrum has on its lateral edge, which is bent downwards, several deep incisions, thus forming strong teeth. The tongue is longer than the labrum, and lies under it without being encased in it.

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* For the explanation of these terms, compare *Monographs*, Vol. I, p. xii. —O. S.

The upper side of the thorax is convex, with bristles inserted in rows, between which there are more or less numerous short hairs; in some genera there is a flat, somewhat concave declivity before the scutellum. Prothorax and mesothorax are very coalescent; no distinct collare is perceptible, and the humeral callosities are not sharply limited; of the ordinary transverse suture only the beginning is indicated on both sides by a large, more or less triangular impression. Scutellum with two, four, or six strong bristles; moreover, its surface is sometimes hairy. The elongated prothoracic stigma is closed. Immediately above the basis of the fore coxæ there is a strong bristle, seldom several. The metathoracic stigma is unusually small. The epimera of the metathorax have a very large development; they embrace often the basis of the abdomen from the side to a considerable breadth, and extend as a narrow stripe along the basis of its upper side.

The abdomen of the female has seven segments, the last two of which are generally very narrow and contracted under the preceding ones, so that only five segments appear on the outside; the seventh segment, in the female, bears on its end two small lamellæ connected with it by an articulation and fringed with hairs; above them there is, in many species, a fan-shaped row of short, stiff, thorn-like bristles; in other species the number of these thorns is reduced to four or two; sometimes they are altogether wanting; the latter is especially the case with those species which prefer dry localities, or also those, the hind part of the thorax of which has a flat usually concave declivity; this difference in the structure of the ovipositor has certainly some relation to the difference of the locality where the eggs are deposited; it is possible that a complete fan of thorn-like bristles constitutes a peculiarity of the species the larvæ of which live under ground, whereas it is wanting when the eggs are laid in decayed wood.

The abdomen of the male can also be considered as consisting of seven segments, if the hypopygium be considered as a single segment; of the sixth segment only the upper half is distinctly developed, but it is much narrower and shorter than the surface of the immediately preceding segments. When this sixth segment is concealed under the upper half of the fifth, or when it is strikingly different by its coloring from the preceding segments and resembles in this respect the seventh, then the male abdomen appears only five-jointed. The seventh segment consists of the proportionally large *hypopygium*, the structure of which, near its basis, is not quite symmetrical. It consists of a rather stalk-like basal part and of a club-shaped posterior part; the stalk-like part is often very much abbreviated, and then not easily perceptible; the club-shaped part is movable towards it; the junction of both parts lies always above, on the left hand side of the club-shaped portion.

The hypopygium is more or less inflected under the abdomen, sometimes imbedded in an excavation of the venter proportionate to its size. At the tip of the inflected hypopygium, below, are inserted, by means of articulations, three pairs of appendages of manifold structure. The outer pair of these appendages is generally larger than the two others, and must be considered as organs of a great irritability, as the roots of the hairs on their inside are connected with nerves. The basis of this pair is linked to the hypopygium by a free articulation. The two other pairs, attached by a less free articulation, can be considered as organs for the purpose of seizing, clutching; they lie within the former pair and are not seldom of a very complicated structure. Sometimes one or the other of these pairs exceeds in length the outer pair. Innermost between them, coinciding with the middle line of the clutching apparatus, a single appendage is inserted, which also appears to be linked at its basis. On the upper side of the hypopygium, which is the side turned towards the abdomen, there are two more appendages, usually in the shape of a gutter; they have no link at their insertion. Above this gutter, or, more seldom, within it, is another appendage, in the shape of a spike, which in some cases is somewhat button-shaped at the tip; it is pierced lengthwise by a channel, and incloses more or less completely the penis, which protrudes considerably during the act of copulation. This organization is most distinctly developed in the genus *Dolichopus*, whereas it is more difficult to observe in the genera with a small and imbedded hypopygium. In some genera the one or the other of the paired organs are so small as to escape notice. A further and more thorough investigation has as yet to show whether in some genera, and this seems, for instance, to be the case with *Hypophyllus*, a still larger number of appendages does not occur, and whether in general the organization of all the genera can be reduced to the common type, described above.

Of the first abdominal segment often only the upper half is perceptible in the male and the female; this is especially the case in those genera in which the *metathoracic epimera* cover a considerable breadth of the basis of the abdomen; in other genera the inferior half of the segment is much shortened, and in a few cases only equal in length to the upper half. In several genera the lateral margin of the second and of the following segments shows deep punctures, arranged in a longitudinal row.

The fore coxæ, which are somewhat distant from the middle ones and placed much higher than those, are also longer, and reach as far as about the middle of the latter. The feet are in general slender, the hind pair generally longer and stouter than the others; the femora are often rather strong. Besides short hairs, the feet bear usually a number of stiff bristles, especially the tibiæ. The pulvilli are only of moderate size; the empodium is linear and always distinct; the claws (*ungues*) are plain and small.

We have already explained above what is necessary for the understanding of the very characteristic neuration of the wings. The surface of the latter is microscopically hairy upon its whole extent. The tegulæ are ciliated with bristle-like hairs, and some smaller ones besides; they are simple, as the inferior duplication is wanting or only apparent as a narrow membranous stripe extending towards the corner of the scutellum.

The sexes of the same species show, besides the difference in structure of the genital organs, other important differences in their organization; the coloring of the same parts of the body is often different. Here, as in many other families, it is in the male sex that these peculiarities assume the character of variously modified ornaments, and it seems impossible to trace any relation between them and the sexual functions or the sustenance of the male. The only exception in this respect is afforded by the considerable difference in the structure of the parts of the mouth, which is much more developed in the females, in accordance with their greater need of food, and consequently their more predaceous habits. The plastic differences distinguishing the male sex from the other may be defined as follows: The eyes of the male are generally somewhat larger, the face and sometimes also the front narrower; the contiguity of the eyes in the male is not frequent; still it takes place in some *Diaphorus* above the antennæ, and in some *Chrysotus* below them. The third joint of the antennæ of the male is usually somewhat longer, sometimes much longer than in the female; likewise the antennal arista of the male is often much prolonged, sometimes extended into a club or button at the tip or enlarged in the shape of a lamel, whereas in the female the arista is much shorter and quite plain. The feet of the females are, almost without exception, plain; those of the male often differ considerably from them, and have various handsome ornaments, principally on the fore and middle tibiæ, and the fore and middle tarsi; the femora as well as the hind tibiæ and tarsi very seldom show anything but a plain structure. To these differences in the structure of the feet must be added those derived from the hairs and bristles which they bear; in the female these are usually more sparse, shorter, and coarser; in the male, closer, more delicate, and longer; sometimes also they assume in this sex some peculiar modified structure. Even the ungues of the male are sometimes of a peculiar irregular shape; the pulvilli are in some cases (as in *Diaphorus*) larger in the male than in the female. The wings of the male often differ from those of the female in the outline and the neuration, those of the latter being in general more plain, and reproducing in their neuration the characters common to the genus; whereas the wings of the male show in both respects more specific peculiarities. These consist usually in characteristic sinuses of the posterior margin and in a stronger sweep of flexure of the longitudinal veins; sometimes the anterior margin also shows a peculiar curve in its outline, or a local thickening, or an elegant fringe of hairs, all of which do not exist in the female.

The hairiness of the eyes, as well as the hairs and bristles on the other parts of the body, is frequently more dense, often considerably longer in the male than in the female. The very minute and dense tomentum with a silvery reflection, which adorns the abdomen and the thorax in most species of *Argyra*, also forms spots on the thorax of some other genera (as *Pelastoneurus*) and, in the species of most genera, is perceptible at least on the lateral margins of the abdomen, is likewise generally more extended and much denser in the males than in the females.

The sexual differences in the coloring may be described as follows: The eyes of the male are frequently of a different color than those of the female, particularly so, for instance, in the genus *Diaphorus.* The enlargement of the antennal arista in the male often has a different coloring, usually white. The color of the face in the male is generally of a purer, often a brighter shade. In many species, the halteres of both sexes are colored differently—for instance, in an entire group of species of *Psilopus*, they are black in the male and yellow in the female. Even the cilia of the tegulæ have in a few instances (as in some species of *Dolichopus*) a different coloring in the two sexes. Differences in the coloring of the feet are not rare; they are especially striking in the genus *Psilopus*, some species of which have altogether yellow feet in the female, and black femora in the male; in others, the pale coloring of the feet is more extended in the female than in the male. The ornaments of the feet, peculiar to the males, also differ in their coloring from the corresponding parts of the feet of the other sex, being usually black, sometimes whitish, or with a handsome silvery reflection. Even without displaying any peculiarity of structure, the feet of the male have sometimes white or silvery spots, which are wanting in the female. The wings are in some cases pictured in the male and not in the female. Such are some species of *Dolichopus*, *Tachytrechus* and *Systenus*, the males of which have a black or white spot at the tip of the wing or in its proximity, whereas the female does not show any trace of such a spot. The same peculiarity occurs also in some other genera.

These, often so conspicuous differences between the sexes of the same species, sometimes render the recognition of their specific identity somewhat difficult. In order to proceed in such cases with some degree of certainty, it is necessary to pay a particular attention to those characters which are usually common to both sexes. The most reliable characters of this kind are: the hairs on the antennæ, especially on the first joint; the shape of the second antennal joint; the position of the arista; the color of the cilia on the inferior orbit; that of the cilia of the tegulæ, notwithstanding some exceptional cases of its diversity in the two sexes. In most genera, to these characters may be added the coloring of the feet and of the halteres as well as the neuration of the wings.

The first two of these characters will hardly ever mislead, if it is borne in mind that they have no value in the genus *Psilopus*, especially in the subdivision with black cilia on the tegulæ. As to the latter character (neuration) it should be remembered that the peculiarities strikingly developed in the males as specific marks are but slightly indicated in the female, and can be perceived only by a very close observation.

The habits of the *Dolichopodidæ* are, as far as known, generally predaceous. Most of them hunt for smaller diptera or other insects with soft bodies and suck them out. They are usually found in damp places, covered with a rich vegetation; many are principally found on the leaves of aquatic plants, on stones, partly overflown with water, on dams and near waterfalls; some of them are able to run rapidly over the water even when it is rippled by wind (*Hydrophorus*); others are fond of salt or brackish waters (*Aphrosylus, Thinophilus* and some *Hydrophorus*); the species of *Medeterus* prefer dry situations and are found on stumps of trees, fences, etc., even in very dry and hot weather.

Little is as yet known about their mode of transformation. Most species live as larvæ under the ground; some are found in the earth collected in hollow, rotten stumps; others (as *Systenus*) in wood undergoing a process of dry decaying.

After all that has been said above, the natural characters of the *Dolichopodidæ* may be put down as follows: Generally metallic green, brisk and restless diptera of small or medium size, predatory on other insects and living principally in damp situations; the male sex are principally distinguished from the females by differences in the structure of the feet; the larvæ living under ground or in decaying wood. Head hemispherical, eyes large, usually not contiguous in both sexes, hairy, fenced in, along the hind border with a row of bristles or hairs. Front, with bristles on the vertex only, and with three ocelli. Antennæ stretched out straight, with a two-jointed arista. Face, without mystacine bristles; its inferior border not merging into the lateral border of the mouth. Oral opening occupying the whole underside of the head, and often also a considerable portion of its hind plane. Proboscis short and stout, concealed above by the single-jointed, usually scale-shaped palpi, with a wide opening which can be shut by the protruding suctorial flaps. Labrum short and stout, with coarse tooth-like excisions on the sides; lingua much more slender and somewhat longer. Prothorax and metathorax very coalescent, with rows of bristles; the usual transverse suture indicated only on the sides. Abdomen with seven segments, only five of which are visible on the outside in the female, whereas in the male the sixth segment is generally perceptible, and the seventh consists of the hypopygium, usually inflected under the abdomen and composed of two consecutive parts, bearing at the end eight paired and two single appendages. Wings microscopically hairy on their whole surface; auxiliary vein not running towards the anterior margin; anterior basal cell very short; discoidal cell coalescent with the second basal cell; posterior basal cell very small; alula rudimentary; tegulæ distinct, simple, ciliated with long hairs.

TABLE FOR THE DETERMINATION OF THE GENERA.

1	First antennal joint hairy above.	2
	First antennal joint glabrous above.	16
2	Hypopygium disengaged.	3
	Hypopygium more or less imbedded.	14
3	First joint of the hind tarsi bristly.	4
	First joint of the hind tarsi not bristly.	5
4	Face descending as far as the inferior angle of the eye.	Gen. I. Hygroceleuthus.
	Face not descending as far as the inferior angle of the eye.	Gen. II. Dolichopus.
5	Palpi of the male unusually large.	Gen. XII. Diostracus.
	Palpi of the male small	6
6	The last portion of the fourth longitudinal vein is parallel, or almost so, to the third longitudinal vein.	Gen. III. Gymnopternus.
	The last portion of the fourth longitudinal vein is distinctly convergent towards the third longitudinal vein.	7
7	The end of the fourth longitudinal vein is abruptly, or at least steeply deflected anteriorly.	8
	The end of the fourth longitudinal vein is only gradually deflected anteriorly.	9
8	Arista with the usual pubescence; the end of the fourth longitudinal vein, beyond the angular flexure, runs in a curve.	Gen. IV. Paraclius.
	Arista short-plumose; the end of the fourth longitudinal vein, beyond the rounded flexure, runs in a straight line.	Gen. V. Pelastoneurus.
9	The face reaches down to the inferior corner of the eye.	Gen. VI. Tachytrechus.
	The face does not reach down to the inferior corner of the eye.	10
10	Proboscis and palpi very much prolonged.	Gen. VII. Orthochile.
	Proboscis and palpi not prolonged.	11
11	Scutellum hairy.	Gen. VIII. Sybistroma.
	Scutellum not hairy	12
12	Hypopygium sessile.	Gen. IX. Hercostomus.
	Hypopygium pedunculated.	13
13	Second antennal joint of usual shape.	Gen. X. Hypophyllus.
	Second antennal joint rudimentary.	Gen. XI. Haltericerus.

14	Abdomen of male laterally compressed.	Gen. XIII. Anepsius.
	Abdomen of the male not compressed.	15
15	Second antennal joint of the usual transverse shape.	Gen. XIV. Argyra.
	Second antennal joint with a thumb-like projection over the inside of the third.	Gen. XV. Syntormon.
16	Third antennal joint in both sexes, or at least in the male, prolonged, pointed, and with an apical arista.	17
	Third antennal joint short even in the male, and if it should be somewhat prolonged, then neither pointed nor with an apical, but at the utmost with a subapical arista.	23
17	Second antennal joint with a thumb-like projection over the inner side of the third.	Gen. XVI. Synarthrus.
	Second antennal joint without a thumb-like projection, transverse.	18
18	Posterior transverse vein distant from the margin of the wing; palpi incumbent.	19
	Posterior transverse vein approximated to the margin of the wing; palpi hanging down.	Gen. XXII. Aphrosylus.
19	Hypopygium pedunculated, free.	Gen. XVII. Systenus.
	Hypopygium sessile, more or less imbedded.	20
20	The male abdomen has five segments.	Gen. XXI. Smiliotus.
	The male abdomen has six segments.	21
21	Third antennal joint prolonged also in the female.	Gen. XVIII. Rhaphium.
	Third antennal joint of the female not prolonged.	22
22	Third antennal joint of the male very much prolonged (small, less hairy species).	Gen. XIX. Xiphandrium.
	Third antennal joint of the male moderately prolonged (larger, more hairy species).	Gen. XX. Porphyrops.
23	Fourth longitudinal vein forked.	Gen. XLIII. Psilopus.
	Fourth longitudinal vein simple.	24
24	Upper side of the thorax convex behind.	25
	Upper side of the thorax behind with a somewhat concave depression.	40
25	Fifth longitudinal vein altogether wanting.	Gen. XXXVIII. Achalcus.
	Fifth longitudinal vein distinct.	26
26	Distance of the posterior transverse vein from the margin of the wing equal to its own length or longer.	27
	Distance of the posterior transverse vein to the margin of the wing shorter than its own length.	38
27	Posterior transverse vein unusually oblique.	Gen. XXXIV. Plagioneurus.
	Posterior transverse vein but little oblique.	28
28	Hypopygium distinctly bent under the venter.	29
	Hypopygium not distinctly bent under the venter or entirely imbedded.	30

29 The face of both sexes very broad, not narrowed superiorly. Gen. XXIII. Thinophilus.
The face of both sexes rather narrow, somewhat narrowed superiorly. Gen. XXIV. Peodes.

30 Outer appendages of the hypopygium long, filiform. Gen. XXV. Nematoproctus.
Outer appendages of the hypopygium not long, nor filiform. 31

31 Third joint of the male antennæ conspicuously large. Gen. XXVI. Leucostola.
Third joint of the male antennæ small. 32

32 Pulvilli of the male fore tarsi conspicuously enlarged. 33
Pulvilli of the male fore tarsi not, or very slightly, enlarged. 34

33 Pulvilli of the male fore tarsi not prolonged. Gen. XXVII. Eutarsus.
Pulvilli of the male fore tarsi prolonged. Gen. XXVIII. Diaphorus.

34 Arista altogether or almost altogether apical. 35
Arista dorsal. 36

35 Wings of considerable size (larger species). Gen. XXIX. Lyroneurus.
Wings of small size (smaller species). Gen. XXX. Chrysotus.

36 Feet of the male with isolated, strong, spine-like bristles. Gen. XXXI. Teuchophorus.
Feet of the sexes without isolated, strong, spine-like bristles. 37

37 Face not narrowed above. Gen. XXXII. Sympycnus.
Face considerably narrowed above. Gen. XXXIII. Campsicnemus.

38 All femora slender, abdominal segments with bristles before the hind margin. Gen. XXXV. Liancalus.
Fore femora incrassated towards the basis. 39

39 Fore tibiæ with long thorns. Gen. XXXVI. Scellus.
Fore tibiæ with very short little thorns. Gen. XXXVII. Hydrophorus.

40 Arista apical, or at least subapical. 41
Arista distinctly dorsal. 42

41 Third and fourth longitudinal veins strongly convergent. Gen. XXXIX. Medeterus.
Third and fourth longitudinal veins parallel. Gen. XL. Chrysotimus.

42 Male abdomen with six distinct segments. Gen. XLI. Xanthochlorus.
Male abdomen with five distinct segments. Gen. XLII. Saucropus.

SYSTEMATIC ARRANGEMENT OF THE GENERA.

I. First joint of the antennæ with hairs on its upper side.

A. Hypopygium disengaged.

A. Palpi of the male small.

1. First joint of the hind tarsi bristly.

Gen. I. **Hygroceleuthus.**
Gen. II. **Dolichopus.**

2. First joint of the hind tarsi not bristly.

a. Third and fourth longitudinal veins parallel or subparallel.

Gen. III. **Gymnopternus.**

b. Third and fourth longitudinal veins convergent.

Gen. IV. **Paraclius.**
Gen. V. **Pelastoneurus.**
Gen. VI. **Tachytrechus.**
Gen. VII. **Orthochile.**
Gen. VIII. **Sybistroma.**
Gen. IX. **Hercostomus.**
Gen. X. **Hypophyllus.**
Gen. XI. **Haltericerus.**

B. Palpi of the male conspicuously large.

Gen. XII. **Diostracus.**

B. Hypopygium more or less imbedded.

Gen. XIII. **Anepsius.**
Gen. XIV. **Argyra.**
Gen. XV. **Syntormon.**

II. First joint of the antennæ entirely bare on its upper side.

A. Third antennal joint in both sexes, or at least in the male, elongated, tapering in a point, with an apical arista.

A. Posterior transverse vein distant from the margin of the wing, palpi incumbent.

Gen. XVI. **Synarthrus.**
Gen. XVII. **Systenus.**
Gen. XVIII. **Rhaphium.**
Gen. XIX. **Xiphandrium.**
Gen. XX. **Porphyrops.**
Gen. XXI. **Smiliotus.**

B. Posterior transverse vein approximated to the margin of the wing; palpi hanging down.

Gen. XXII. **Aphrosylus.**

B. Third antennal joint short even in the male, or if somewhat elongated, then neither pointed at tip nor with an apical, but, at the utmost, with a subapical arista.

A. Fourth longitudinal vein simple.

1. Upper side of the thorax convex posteriorly.

a. Fifth longitudinal vein distinct.

α. Distance of the posterior transverse vein from the hind margin of the wing equal to its own length or longer.

Gen. XXIII. **Thinophilus.**
Gen. XXIV. **Peodes.**
Gen. XXV. **Nematoproctus.**
Gen. XXVI. **Leucostola.**
Gen. XXVII. **Eutarsus.**
Gen. XXVIII. **Diaphorus.**
Gen. XXIX. **Lyroneurus.**
Gen. XXX. **Chrysotus.**
Gen. XXXI. **Teuchophorus.**
Gen. XXXII. **Sympycnus.**
Gen. XXXIII. **Campsicnemus.**
Gen. XXXIV. **Plagioneurus.**

β. Distance of the posterior transverse vein from the margin of wing shorter than its own length.

Gen. XXXV. **Liancalus.**
Gen. XXXVI. **Scellus.**
Gen. XXXVII. **Hydrophorus.**

b. Fifth longitudinal vein altogether wanting.

Gen. XXXVIII. **Achalcus.**

2. Upper side of the thorax posteriorly with a flat, somewhat concave, declivity.

Gen. XXXIX. **Medeterus.**
Gen. XL. **Chrysotimus.**
Gen. XLI. **Xanthochlorus.**
Gen. XLII. **Saucropus.**

B. Fourth longitudinal vein forked.

Gen. XLIII. **Psilopus.**

Gen. I. **HYGROCELEUTHUS.**

The genera *Hygroceleuthus* and *Dolichopus* are the only ones which have spine-like bristles on the first joint of the hind tarsi, and this character helps to distinguish them most easily from all other *Dolichopodidæ.* They have also the following characters in common: first antennal joint beset with hairs above; third joint not prolonged; arista dorsal; hypopygium entirely disengaged; its outer appendages proportionally large or moderately large, lamelliform. The difference between the two genera is to be found in the length of the face, which, in *Hygroceleuthus*, reaches down to the inferior corner of the eye, and which is shorter in *Dolichopus.* In the typical species of *Hygroceleuthus* the first, and sometimes also the second joints of the antennæ are considerably longer than in *Dolichopus.* As on one side the European *Hygroc. Diadema* Hal. approaches *Dolichopus* by the structure of its antennæ, so, on the other side, some species of *Dolichopus*, for instance, *D. plumipes* Scop., a species common to Europe and North America, are related to *Hygroceleuthus* by the somewhat greater length of their face.

I know as yet only four species of *Hygroceleuthus;* of the three typical species, one inhabits northern and middle Europe; the second Siberia; the third North America. The fourth species of the genus is spread over all Europe.

The name *Hygroceleuthus* (ὑγϱοκέλευϑος, living in the wet) has been given to the genus on account of the species being found in moist localities.

1. H. latipes Loew. ♂ and ♀.—Aeneo-viridis, antennis rufis, ciliis oculorum inferioribus pallidis, tegularum ciliis nigris, tarsis intermediis maris compressis.

Brassy green; antennæ red; cilia of the inferior orbit pale; cilia of the tegulæ black; middle tarsi of the male compressed. Long. corp. 0.26. Long. al. 0.23.

Syn. *Hygroceleuthus latipes* Loew, Neue Beitr. VIII, 5.

Green, shining. Antennæ reddish-yellow, with a black superior edge and with the tip of the third joint black; first joint narrow and elongated. Face white, yellowish above, much broader in the ♀ than in the ♂. Cilia of the inferior orbit pale. Fore coxæ, tip of the middle and hind coxæ and feet yellow; tarsi black from the tip of the first joint; the first joint of the fore tarsi sometimes altogether dusky; the root of the second joint of the hind tarsi, on the contrary, is pale. On the upper side of the middle tibiæ a bristle is conspicuous by its greater length; there are two bristles before the tip of the hind tibiæ. Tegulæ with black cilia. Wings tinged with brownish; fourth longitudinal vein not broken; hind transverse vein straight and steep. Four last joints of the middle tarsi compressed in the ♂, beset on the upper side with incumbent black hairs; the fifth joint much narrower than the preceding ones. Costa with a stout swelling near the tip of the first longitudinal vein. Lamellæ of the hypopygium of moderate size, white, bordered with black at the tip, jagged and fringed with black bristles.

Hab. North Red River. (Kennicott.)

Gen. II. **DOLICHOPUS.**

The principal characters of the genus *Dolichopus*, as it follows already from what has been said about it in the genus *Hygroceleuthus*, are: the presence of hairs on the upper side of the first antennal joint, the shape of the third joint, which is hardly ever very much elongated, the dorsal position of the arista, the entirely disengaged hypopygium, the lamelliform shape of its rather large outer appendages and the presence of spine-like bristles on the first joint of the hind tarsi.

The genus *Dolichopus*, established by Latreille already in 1796, is the oldest of the family. It comprised at that time all the *Dolichopodidæ*, so that all the other genera have been gradually formed by the separation of some groups and by further subdivision of the latter. In the sense in which this genus was adopted by Wiedemann and Meigen, it still included the present genera *Gymnopternus*, *Paraclius*, *Pelastoneurus* and *Tachytrechus*, besides some isolated species belonging to other genera, which had been erroneously located in it. (Such was the case, for instance, with *D. adustus* Wied., which belongs to *Lyroneurus*.) The definition of *Dolichopus*, in its present limited sense, was given by me in 1857. Still, even now, this is one of the largest genera of this family. Although possessing abundant and striking specific differences, its numerous species show at the same time so much agreement in their general organization, that a subdivision into smaller genera is impossible at present, and in future an attempt of that kind will require a great deal of caution. One is easily tempted here to establish generic groups founded upon characters of a purely specific value. The genus *Rhagoneura*, formed by Rondani, is due to a mistake of this kind. To found a new genus on *D. ziczac*, which species apparently requires it on account of some differences in the neuration and in the structure of the antennæ, seems hardly worth while, as this is as yet the only species showing such differences.

The geographical distribution of the genus *Dolichopus* cannot be inferred from the data found in older authors, as this genus contained at that time very heterogeneous elements. Neither can Mr. Walker's superficial publications on exotic species be considered in this respect as a source of information, as it is impossible to tell from his descriptions which of his species belong to *Dolichopus* in the restricted sense. Those species from the southern hemisphere, and from the southern parts of the northern, which I had occasion to examine at different times, proved not to belong to *Dolichopus* in that sense. Hence we may safely conclude that the genus *Dolichopus*, in the large majority of its species, belongs to the cold and temperate zones of the northern hemisphere; it can, at least, be positively asserted that the number of species, in Europe as well as in America, goes on diminishing toward the South.

The name of the genus (δολιχός, long, and ποὺς, foot) has reference to the length of the feet of its species.

Thirty-one North American species of *Dolichopus* have been described by former authors; some of them, however, do not belong to this genus in the restricted sense adopted here. Of these species three have been described by Say, one by Zetterstedt, one by Macquart, and twenty-six by Walker. The descriptions given by Mr. Walker are, for the most part, very bad, and the worst are those published in the *Diptera Saundersiana*, as they contain only such characters as are common to all the species, or at least to entire groups, without paying the least attention to those marks which serve to distinguish one species from another. The eighteen descriptions contained in the *List of Diptera of the British Museum* mention at least occasionally such specific characters, and may therefore contain some data for identification; but their great defect is that Mr. Walker has not given a complete description of those peculiar marks which distinguish the males of many species, so that, from his silence about these marks, one cannot with safety conclude that they are really wanting. This accuracy is absolutely necessary in order to make a description available. Among the forty-one North American *Dolichopodidæ* now known to me, I recognize with certainty only *a single species* already described before (besides the three species which North America has in common with Europe, *D. plumipes* Scop., *D. brevipennis* Meig., and *D. discifer* Stann.); it is the *D. cuprinus* Wied. (= *cupreus* Say). This striking result induces me to give a separate account of all the other species published by former authors, in the order of their publication.

1. **obscurus** *Say.* This species, also described by Wiedemann, evidently belongs to the genus *Gymnopternus* and will be discussed there. Wiedemann's collection affords no light upon this species. It contains, it is true, two specimens of a *Dolichopus* marked *obscurus*, but this is no other than a species of *Tachytrechus*, from the Cape, described by Wiedemann himself under the name of *obscœnus*. It is probable that Wiedemann named this species, as he was in the habit of doing, as soon as he received it in his collection, and that when he described it afterwards, he changed its name to *obscœnus*, on account of the already existing *obscurus* Say, neglecting, at the same time, to change the etiquette in his collection.
2. **abdominalis** *Say.* The abdomen is said to be reddish. If Say means a reddish, non-metallic color, then it is a distinct species, entirely unknown to me, which will be easily recognizable even if it is no true *Dolichopus*, as may very probably be the case. If, however, he means a metallic, coppery-red coloring, then the description is too unmeaning to pronounce even about its belonging to *Dolichopus* in the restricted sense; as to the identification of the species, it is altogether out of question.
3. **groenlandicus** *Zett.* A true *Dolichopus* with black as the prevailing color of its feet. It is not among the number of the species known to me.
4. **heteroneurus** *Macq.* is either a *Pelastoneurus* or a *Paraclius.*
5. **bifrons** *Walk.* Dipt. Saund. It may be inferred, from the peculiar coloring of the face of this species, that it is a *Pelastoneurus*,

although no mention is made of the peculiar course of the fourth longitudinal vein, which characterizes this genus.

6–9. **consors, contingens, hebes, ineptus,** all four described by *Walker* in the Dipt. Saund. from female specimens. The descriptions are so wretched that the identification is impossible.

10. **maculipes** *Walk.* Dipt. Saund. The spots on the tibiæ, mentioned by Walker, seem to indicate that this is a *Pelastoneurus.* But the peculiar course of the fourth longitudinal vein, the chief character of the genus, is again not mentioned.

11. **pulcher** *Walk.* Dipt. Saund. I take this to be a true *Dolichopus,* although the datum of the fourth longitudinal vein beyond its flexure not converging, but being parallel to the third, seems to indicate a *Gymnopternus.* It belongs to the species with black femora, but among the species of this description which I possess from North America, there is none to which Mr. Walker's description of the fourth longitudinal vein is applicable.

12. **varius** *Walk.* Dipt. Saund. A very distinct species on account of its spotted wings and which will be easily recognizable even if, as it seems probable, it does not belong to the genus *Dolichopus.*

13. **affinis** *Walk.* This and the following species have been described by Mr. Walker in the *List of Diptera, etc.* All belong very probably to the genus *Dolichopus,* and to the subdivision with yellow feet, except the cases which I have expressly mentioned below. It is not said whether the tegulæ of *D. affinis* are ciliated with black or pale hairs. If the latter is the case, and if, as it appears from Mr. Walker's data, the hind tarsi are altogether black, my *D. splendidus* might alone be taken in consideration; but it is hardly possible that it should be this species, as Mr. Walker's description of the coloring does not apply to it, and as the hind femora of the ♂ of *D. affinis* Walk. are ciliated with only a few hairs, whereas in *D. splendidus* these hairs are very numerous. If *D. affinis* has black cilia on the tegulæ, then *D. discifer* and *lobatus* could be thought of, but the hind femora of their males are entirely destitute of bristles, so that the description of *D. affinis* cannot be applied to either of them.

14. **lamellipes** *Walk.* It has the inferior orbit ciliated with black. Among the North American species of *Dolichopus* with pale-colored feet *D. pachycnemus* and *D. brevipennis* alone partake of this character. The other data of Mr. Walker do not apply at all to these species, as neither of them has a white face, the first antennal joint red and the third joint very long.

15. **ciliatus** *Walk.* Very poorly characterized. I suppose that the cilia of the inferior orbit are pale. If the tegulæ are likewise ciliated with pale hairs, then *D. variabilis* and *D. luteipennis* might be taken in consideration. But *D. variabilis* has no golden-yellow face, its fore tarsi are not "dark tawny," but always black from the tip of

the first joint; besides, its male has ciliated hind femora, which Mr. Walker does not ascribe to his species. *D. luteipennis* has a white face and the last joint of its fore tarsi black; its wings are yellowish and not gray, the veins are luteous and not black; finally the hind femora of its male are also ciliated. If the tegulæ of *D. ciliatus* are ciliated with black, then we might perhaps identify it with *D. vittatus;* but the size of the latter is too large to admit of this identification, and its face, instead of being golden-yellow, is whitish; its fore tarsi are not dark tawny but always black from the tip of the third joint.

16. **adjacens** *Walk.* Very poorly described from a female specimen, so that it would be entirely useless to attempt its identification.

17. **coercens** *Walk.* Mr. Walker says that the coxæ are blackish-green towards the basis. This character, combined with the others which are given, excludes at once all the species with the tegulæ fringed with black, which are known to me. If the tegulæ are fringed with yellow, this species might be taken for *D. longimanus;* but the last joint of the fore tarsi of the latter is only moderately enlarged, assuming the shape of a very small lamella, and its hind tarsi are colored black in a rather striking manner from the very root of the first joint; whereas Mr. Walker says that in his species they are pitch brown towards the end. Under such circumstances the description of *D. coercens* Walk. cannot possibly be referred to *D. longimanus.*

18. **finitus** *Walk.* If the tegulæ are fringed with pale, then, among the species known to me, *D. longimanus*, *D. splendidus* and *D. batillifer* have to be taken in consideration. The face of *D. longimanus* is not whitish, but pale ochre-yellowish in the ♂ and yellowish gray in the ♀ · the cilia of the inferior orbit are not white, but yellowish, and the hind tarsi are not pale at the basis, as in *D. finitus*, but entirely black. *D. splendidus* is distinguished from *D. finitus* by its hind tarsi, which are not pale at the base, and by the ciliated hind femora of the male. The face of *D. batillifer* is not white: the hind femora of the male are ciliated and the hind tibiæ incrassated in a very striking manner; therefore this species is also distinct from *D. finitus.* If the cilia of the tegulæ of *D. finitus* are black, then we might compare *D. discifer* and *lobatus* with it. The hind tarsi of *D. discifer* are not pale at the base, and the first joint of the antennæ is tinged with black only on its upper edge, so that it is hardly probable that Mr. Walker should have overlooked its striking red coloring. This also excludes this species from the identification with *D. finitus.* The hind tarsi of *D. lobatus* likewise are not pale at the base, and the first joint of the antennæ is red, and only somewhat dusky on its upper edge, so that it has also to be considered as different from *D. finitus.*

19. **distractus** *Walk.* Walker says nothing about the sex of the described specimen; it seems to have been a female. The description does not afford any data for even an approximative identification.

20. **discessus** *Walk.* Mr. Walker gives a very unsatisfactory description of a female. It is a rather surprising datum that the upper side of the thorax has two longitudinal coppery-red stripes, whereas all the species known to me, and marked with stripes of this color, have always three, that is, a narrow intermediate one, and two broad lateral ones. This character might perhaps serve as a clue for identification.

21. **contiguus** *Walk.* Nothing is said about the color of the cilia of the inferior orbit. If they are black, then it is certain that *D. contiguus* is not among the species from North America known to me. If they are pale, it still remains to be known of what color are the cilia of the tegulæ about which Mr. Walker is also silent. Supposing that they are pale, then *D. splendidus* would have to be taken in consideration; but its male has fringed hind femora and cannot therefore be identified with *D. contiguus.* If the cilia of the tegulæ are black then we would have to compare *D. discifer* and *lobatus.* But the last joint of the fore tarsi of *D. discifer* is not at all much enlarged, and forms only a small pallet; therefore it cannot be taken for *D. contiguus. D. lobatus* has a very much enlarged last joint of the male fore tarsi, but as the first joint of the antennæ is red and only slightly dusky on the upper edge, and as the lamellæ of the hypopygium have a broad black margin, whereas Walker describes the lamellæ of *D. contiguus* simply as whitish, as the wings of *D. lobatus,* in the male sex, are distinguished by their peculiar shape, which is not mentioned in the description of *D. contiguus,* on account of all this we cannot consider these species as being identical.

22. **exclusus** *Walk.* Very poorly described from a female, so that all effort to identify the species must remain fruitless.

23. **confinis** *Walk.* The same may be said of this species.

24. **conterminus** *Walk.* Mr. Walker does not mention the color of the cilia on the tegulæ, and this renders the identification impossible. If they are black, then the species is not among those known to me. *D. discifer* and *D. lobatus* are here again the species with which Mr. Walker's description agrees in most particulars, but both are easily distinguished by the absence of fringe on the hind femora of the male. If, on the contrary, the cilia of the tegulæ of *D. conterminus* are pale, then *D. splendidus* might possibly be identified with it, although it must be admitted that the coloring of this species as well as some other characters, somewhat disagree with Mr. Walker's description.

25. **separatus** *Walk.* Bad description of a female, rendering identification impossible.
26. **terminatus** *Walk.* Also a female described. The only species to which it may possibly be referred is *D. chrysostomus*, and I would have no doubt about it if I knew that the cilia of the tegulæ of *D. terminatus* are black. But Mr. Walker's description is silent about this; neither does it mention the very striking black incisures which the abdomen of *D. chrysostomus* shows; finally, the third joint of the antennæ of the latter species is pointed at the tip. Considering all this, it would be premature to assume the identity of these species. Those who, in the determination of the species, rely upon possibilities and vague reasonings, would perhaps do so. And doubtless it is that the adoption of this synonymy would be more reliable than that of any other of Walker's species with one of those described by me.
27. **sequax** *Walk.* Mr. Walker says that this species has small tufts of black hairs at the basis of the middle tibiæ. He does not mention, however, whether this peculiarity is to be found in the male alone, or in both sexes. At all events this is a very unusual distinction among the species of *Dolichopidæ*, which will render the identification easy. This species is not among those described by me.
28. **soccatus** *Walk.* The sex of the described specimen is not mentioned; it seems to have been a female. The description is too incomplete to allow recognition.
29. **remotus** *Walk.* Description of a male with plain tarsi. The characters given allow a comparison merely with *D. incisuralis*, the male of which, however, has fringed hind femora and cannot therefore be identical with *D. remotus*.
30. **D. irrasus** *Walk.* This is a small species, distinguished by its dark blue color and unusually short abdomen, which is certainly not to be found among the species known to me. It seems probable that it is no true *Dolichopus* at all.

The slender result of the foregoing discussion of Mr. Walker's species is, that there are only *two* among them which, with certain problematical admissions, may perhaps be identified with species described by me, namely, *D. conterminus* Walk. with my *D. splendidus*, and *D. terminatus* with *D. chrysostomus*.

To facilitate the determination of the species I give, first, a dichotomic table. I found it impossible to bring it down to the single species without making use of characters peculiar to the male sex only. The systematic arrangement which follows the dichotomic table subdivides the genus in groups, founded upon easily perceptible characters common to both sexes. I think it will be useful to retain these groups, or, at least, the principal among them.

Table for determining the Species.

1	Prevailing color of the feet black.	2
	Prevailing color of the feet yellowish.	9
2	Cilia of the inferior orbit black.	3
	Cilia of the inferior orbit whitish.	4
3	Face ochre yellowish.	1 **gratus** *Lw.*
	Face silvery white.	2 **laticornis** *Lw.*
4	First joint of hind tarsi with numerous bristles.	3 **setifer** *Lw.*
	First joint of hind tarsi with but few bristles.	5
5	Hind tibiæ black only at the tip.	6
	Hind tibiæ quite black.	7
6	The black at the tip of the hind tibiæ rather extended and not very sharply limited.	4 **albiciliatus** *Lw.*
	The black at the tip of the hind tibiæ but little extended and sharply limited.	5 **xanthocnemus**, n. sp.
7	A considerable extent of the tip of the femora yellow.	6 **tetricus**, n. sp.
	The extreme tip of the femora only somewhat yellow.	8
8	Lamellæ of the hypopygium pointed.	7 **acuminatus** *Lw.*
	Lamellæ of the hypopygium rounded ovate.	8 **ovatus** *Lw.*
9	Cilia of the inferior orbit black.	10
	Cilia of the inferior orbit pale.	11
10	Fore coxæ blackish.	9 **pachycnemus** *Lw.*
	Fore coxæ yellow.	10 **brevipennis** *Meig.*
11	Tegulæ with pale cilia.	12
	Tegulæ with black cilia.	23
12	Antennæ black, at the utmost, the first joint almost red.	13
	Antennæ altogether, or at least their larger portion, yellowish red.	21
13	Fore coxæ dark beyond the middle.	11 **longimanus** *Lw.*
	Fore coxæ pale.	14
14	Tip of the hind tibiæ decidedly blackish.	15
	Tip of the hind tibiæ not or very slightly infuscated.	16
15	Fore tarsi only ferruginous-brownish.	12 **brevimanus** *Lw.*
	Fore tarsi blackened from the tip of the first joint.	13 **socius** *Lw.*
16	Hind tarsi entirely black.	17
	Basis of the hind tarsi pale to a considerable extent.	19
17	Hind femora of the male not ciliated.	14 **nudus**, n. sp.
	Hind femora of the male ciliated.	18

18 Hind femora of the male with sparse and rather short cilia. 15 **subciliatus**, n. sp.
Hind femora of the male with very long and dense cilia. 16 **splendidus** *Lw.*

19 Only the last joint of the fore tarsi of the male is enlarged. 17 **batillifer** *Lw.*
The two last joints of the fore tarsi of the male are enlarged. 20

20 Hind femora of the male ciliated. 18 **eudactylus** *Lw.*
Hind femora of the male not ciliated. 19 **tonsus** *Lw.*

21 Last joint of the fore tarsi of the male enlarged. 20 **tener** *Lw.*
Fore tarsi of the male plain. 22

22 Wings hyaline with a grayish tinge. 21 **variabilis** *Lw.*
Wings hyaline with a yellowish tinge. 22 **luteipennis** *Lw.*

23 Fourth longitudinal vein broken. 24
Fourth longitudinal vein not broken. 28

24 Antennæ black. 23 **ramifer** *Lw.*
Antennæ yellowish-red. 25

25 Fourth longitudinal vein broken twice at right angles. 24 **bifractus** *Lw.*
The inferior angle of the fourth longitudinal vein sharp, the superior one rounded. 26

26 Tarsi of the male plain. 25 **vittatus** *Lw.*
Tarsi of the male enlarged at the tip. 27

27 Hind femora of the male ciliated. 26 **cuprinus** *Wied.*
Hind femora of the male not ciliated. 27 **longipennis** *Lw.*

28 Antennæ red, at the utmost the third joint somewhat or altogether blackened at the tip. 29
Antennæ black, at the utmost the first joint partly red. 36

29 Humeral callosity of the same color with the upper side of the thorax. 30
Humeral callosity yellowish. 35

30 Arista much enlarged towards the tip in the male. 28 **hastatus**, n. sp.
Arista of the male not enlarged. 31

31 Last joint of the fore tarsi not enlarged in the male. 32
Last joint of the fore tarsi enlarged in the male. 33

32 First joint of the male middle tarsi feathered. 29 **plumipes** *Scop.*
First joint of the male middle tarsi not feathered. 30 **fulvipes** *Lw.*

33 Last joint of the male fore tarsi with a lamelliform appendage. 31 **sexarticulatus**, n. sp.
Last joint of the male fore tarsi without lamelliform appendage. 34

34 Last joint of the male fore tarsi small. 32 **ruficornis** *Lw.*
Last joint of the male fore tarsi large. (40 **lobatus** *Lw.*)

35 Fore tarsi of the male plain. 33 **scapularis** *Lw.*
Fore tarsi of the male enlarged at the tip. 34 **funditor** *Lw.*

36 Face dark golden-yellow. 35 **chrysostomus** *Lw.*
Face not golden-yellow. 37

37	Tip of the hind femora infuscated above.	38
	Tip of the hind femora not infuscated above.	39
38	Fore femora on the under side with a black stripe.	36 **præustus** *Lw.*
	Fore femora without black streak.	37 **comatus** *Lw.*
39	Fore tarsi black only at the tip.	40
	Fore tarsi black from the tip of the first joint.	41
40	Two last joints of the male fore tarsi but little enlarged, feathered with black.	38 **scoparius**, n. sp.
	Two last joints of the male fore tarsi enlarged, not feathered.	39 **discifer** *Stann.*
41	Last joint of the male fore tarsi very much enlarged.	40 **lobatus** *Lw.*
	Fore tarsi of the male plain.	42
42	Bristles of the hind tibiæ longer than usual.	41 **setosus** *Lw.*
	Bristles of the hind tibiæ not longer than usual.	42 **incisuralis** *Lw.*

Systematic distribution of the Species.

I. Prevailing color of the feet black.

A. Cilia of the inferior orbit black.

1. **gratus** *Lw.*
2. **laticornis** *Lw.*

B. Cilia of the inferior orbit whitish.

3. **setifer** *Lw.*
4. **albiciliatus** *Lw.*
5. **xanthocnemus**, n. sp.
6. **tetricus**, n. sp.
7. **acuminatus** *Lw.*
8. **ovatus** *Lw.*

II. Prevailing color of the feet yellowish.

A. Cilia of the inferior orbit black.

9. **pachycnemus** *Lw.*
10. **brevipennis** *Meig.*

B. Cilia of the inferior orbit pale.

A. Cilia of the tegulæ pale.

1. Antennæ black, the first joint at the utmost partly red.

11. **longimanus** *Lw.*
12. **brevimanus** *Lw.*
13. **socius** *Lw.*
14. **nudus**, n. sp.
15. **subciliatus**, n. sp.
16. **splendidus** *Lw.*
17. **batillifer** *Lw.*
18. **eudactylus** *Lw.*
19. **tonsus** *Lw.*

2. Antennæ entirely, or their greater portion, yellowish red.

20. **tener** *Lw.*
21. **variabilis** *Lw.*
22. **luteipennis** *Lw.*

B. Cilia of the tegulæ black.

1. Fourth longitudinal vein broken.

a. Antennæ black.

23. **ramifer** *Lw.*

b. Antennæ yellowish-red.

24. **bifractus** *Lw.*
25. **vittatus** *Lw.*
26. **cuprinus** *Lw.*
27. **longipennis** *Lw.*

2. Fourth longitudinal vein not broken.

a. Antennæ red, at the utmost the third joint at the tip almost entirely red.

α. Humeral callosity of the same color with the thorax.

28. **hastatus**, n. sp.
29. **plumipes** *Scop.*
30. **fulvipes** *Lw.*
31. **sexarticulatus**, n. sp.
32. **ruficornis** *Lw.*

β. Humeral callosity yellowish.

33. **scapularis** *Lw.*
34. **funditor** *Lw.*

b. Antennæ black, at the utmost the first joint partly red.

35. **chrysostomus** *Lw.*
36. **præustus** *Lw.*
37. **comatus** *Lw.*
38. **scoparius** *Lw.*
39. **discifer** *Stann.*
40. **lobatus** *Lw.*
41. **setosus** *Lw.*
42. **incisuralis** *Lw.*

DESCRIPTION OF THE SPECIES.

I. PREVAILING COLOR OF THE FEET BLACK.

A. *Cilia of the inferior orbit black.*

1. D. gratus LOEW. ♂.—Ex viridi chalybeus, pedum nigrorum tibiis anterioribus totis tibiarumque posticarum dimidio basali flavis, facie ochraceâ, ciliis oculorum inferioribus tegularumque ciliis nigriis.

Bluish-green, feet black, the four anterior tibiæ entirely, the two hind ones upon the basal half yellow; face ochre-brownish; cilia of the inferior orbit and of the tegulæ black. Long. corp. 0.23—0.24. Long. al. 0.21.

SYN. *Dolichopus gratus* LOEW, Neue Beiträge, VIII, 11, 1.

Bluish-green. The narrow face ochre-brownish. Antennæ black; the first joint rather narrow. Front metallic bluish-green. The cilia of the inferior orbit black. Lamellæ of the hypopygium whitish, of moderate size, on the upper and the apical margin with a moderately broad black border; the apical margin somewhat jagged and fringed with numerous black bristles. Femora black, with yellow tip; the hind femora rather stout, provided with a bristle before the tip; upon the under side ciliated with long black hair; the four anterior tibiæ and tarsi yellowish, the latter ones but little darker towards the tip; hind tibiæ somewhat thickened, the apical half and the whole of their hind side black, the remaining parts yellowish; hind tarsi quite black, the first joint with few bristles. Tegulæ with strong black cilia. Wings hyaline, the costa is thickened before the tip of the first longitudinal vein, and only very gradually attenuated beyond; the end of the fourth longitudinal vein converges towards the third.

Hab. Trenton Falls, West Point, Palisades, etc., N. Y. (Osten-Sacken.)

2. D. laticornis LOEW. ♂.—Viridis pedum nigrorum tibiis, excepto posticarum apice, flavis, facie albâ, ciliis oculorum inferioribus nigris, tegularum ciliis albis.

Green, feet black; tibiæ, excepting the tip of the hind ones, yellow; face white; cilia of the inferior orbit black; cilia of the tegulæ white. Long. corp. 0.17. Long. al. 0.15.

SYN. *Dolichopus laticornis* Loew, Neue Beitr. VIII, 12, 2.

Face white, rather broad for a male. Antennæ black; the third joint large and broad, ovate; arista inserted upon its second third. Front metallic green. The cilia of the inferior orbit black. Lamellæ of the hypopygium rather small, of a trapezoidal form, the upper and apical margin are but very little bordered with black; their margin is not jagged but only fringed with minute black hairs. Tip of the coxæ yellow. Femora black, with a faint greenish reflection and yellow tip. Tibiæ yellowish. (The middle tibiæ are wanting in the described specimen.) The tip of the hind tibiæ, which are not thickened at all, is black. Fore tarsi from the tip of the first joint black; hind tarsi entirely black; the first joint is beset with a few thorn-like bristles. Hind femora before the tip with a stout bristle. Tegulæ with whitish cilia. Wings hyaline; the costa but scarcely thickened about the tip of the first longitudinal vein; the end of the fourth longitudinal vein converges towards the third.

Hab. Connecticut. (Norton.)

B. *Cilia of the inferior orbit pale.*

3. D. setifer LOEW. ♂.—Obscure viridis, pedum nigrorum tibiis anterioribus posticarumque dimidio basali flavis, facie albâ, ciliis oculorum inferioribus tegularumque ciliis albidis, metatarso postico valde setoso.

Dark green; feet black, the four anterior tibiæ and the basal half of the two hind ones yellow; face white; the cilia of the lower orbit and of the tegulæ whitish; the first joint of the hind tarsi with many thorn-like bristles. Long. corp. 0.17. Long. al. 0.15.

SYN. *Dolichopus setifer* Loew, Neue Beitr. VIII, 12, 3.

Face silvery-white, narrow. Antennæ black, third joint short. Front metallic green. The cilia of the inferior orbit whitish. The lamellæ of the hypopygium whitish; their long apical margin is finely jagged only below and fringed with long bristles, above only finely hairy; its lower corner has a narrow black border. The black femora show a green reflection and have a clayish-yellow tip; the hind femora have a bristle before their tip and are ciliated on their under side with long black hairs; the four anterior tibiæ are clayish-yellow; the first joint of the four anterior tarsi is of the same color; its tip and the remaining joints are black. The hind tibiæ are black; upon their upper side, from the base beyond the middle, clayish-yellow; towards their tip but little thickened; the first joint of the hind tarsi is covered with many thorn-like bristles. Tegulæ with whitish cilia. Wings entirely hyaline, towards the base somewhat wedge-shaped, with a black spot which occupies their very tip. The costa is hardly thickened near the tip of the first longitudinal vein; the end of the fourth longitudinal vein converges towards the third.

Hab. District Columbia; Trenton Falls, N. Y. (Osten-Sacken.)

4. D. albiciliatus Loew. ♀.—Obscure viridis, pedum nigrorum tibiis, posticarum apice tamen excepto, tarsorumque anteriorum basi flavis, facie albâ, ciliis oculorum inferioribus albis, tegularum ciliis nigris.

Dark green; feet black, tibiæ, excepting the tip of the hind ones, and the basis of the four anterior tarsi, yellow; face white; cilia of the inferior orbit white; cilia of the tegulæ black. Long. corp. 0.20. Long. al. 0.20.

Syn. *Dolichopus albiciliatus* Loew, Berl. Ent. Monatschr. VI, 211, 59.

Dark green. Face proportionally rather broad, white. Antennæ black, third joint short. Front metallic green. Cilia on the inferior orbit white. Femora black, with a greenish reflection, their extreme tip brownish-yellow; on the under side of the hind femora the hairs are somewhat longer than in the related species, and of such a kind as to lead to the supposition that the male has the hind femora ciliated with black. Tibiæ yellow, the tip of the hind ones black; this black coloring occupies on the anterior side perhaps the fourth, on the hind side nearly the third part. On the four anterior tarsi the four last joints, including the tip of the first joint, are black; the hind tarsi are entirely black; their first joint is as long as the second, upon its upper side with two bristles, and upon its under side with one. Cilia of the tegulæ black. Wings hyaline.

Hab. Illinois. (Le Baron.)

5. D. xanthocnemus, n. sp. ♂ and ♀.—Obscure viridis, pedum nigrorum tibiis, posticarum apice tamen excepto, tarsorumque anteriorum basi flavis, facie albâ, ciliis oculorum inferioribus albis, tegularum ciliis nigris, femoribus maris posticis albo-ciliatis.

Dark green; feet black, tibiæ, excepting the tip of the hind ones, and the

base of the four anterior tarsi, yellow; face white; cilia of the inferior orbit white; cilia of the tegulæ black; hind femora of the male ciliated with white. Long. corp. 0.15—0.16. Long. al. 0.17—0.18.

In the color and even the structure of the body this species resembles *D. albiciliatus;* but it is much smaller. Face white, that of the male rather narrow, that of the female proportionally rather broad. Palpi blackish at the base, at the tip more yellowish and with a somewhat whitish reflection. Antennæ black; third joint rather short, in the ♂ somewhat larger than in the ♀. Front metallic green. Cilia of the posterior orbit black above, white on the side and below. Coxæ black, trochanters brownish-yellow. The fore coxæ dusted on their fore side and beset with black hair. Femora black, with brownish-yellow tip, the hind ones before the tip with a bristle. The hairs of the femora are black, but there are on the under side of the four anterior femora of the male some delicate and short white hairs. The under side of their hind femora is ciliated with very long white hairs; upon the under side of the anterior femora of the female the hairs are closer than in the male, and show a whitish appearance only in a certain direction, whilst in another direction they appear rather blackish. Tibiæ yellowish; the hind tibiæ are colored with black at the tip; this black coloring has but a moderate extent and is rather sharply limited. Tarsi plain in both sexes; on the four anterior ones the tip of the first joint and the four following joints are colored black; the hind tarsi are entirely black; in the male their first joint has more thorn-like bristles than in the female. Cilia of the tegulæ black, but mixed with minute white hairs, as it is also the case with the related species, for instance with *D. albiciliatus.* Wings grayish hyaline; in the male the anterior margin has at the tip of the first longitudinal vein a small knot-shaped swelling. The white lamellæ of the hypopygium are of a rounded-ovate form, bordered with black, jagged on the upper and apical margins and fringed with black bristles.

Hab. Sitka. (Sahlberg.)

Observation.—Between the diagnosis of this species and that of *D. albiciliatus* there is no difference with regard to the female sex except in the size. Indeed the females of both species are very much alike. In order to distinguish them it will be well to bear in mind that the female of *D. xanthocnemus* is not only much smaller, but that the incisures of its abdomen are less blackened, that the black coloring on the tip of its hind tibiæ is less extended and more sharply limited, and that finally the short hairs upon the under side of its fore and middle femora have, in a reflected light, for the most part a whitish appearance, whilst in the female of *D. albiciliatus* this is the case only in the proximity of the base of the fore femora.

6. **D. tetricus,** n. sp. ♂ and ♀.—Obscure viridis, rarius cupreus, antennis pedibusque nigris, apicali femorum triente testaceo, inferioribus oculorum ciliis flavicantibus, alis cinereis. ♂. Facie exochraceo-cinereâ, lamellis hypopygii albidis, ultimo tarsorum anticorum articulo dilatato, tibiis posticis crassiusculis. ♀. Facie albidâ, pedibus simplicibus.

Dark green, seldom coppery; antennæ and feet black, the last third of the femora brownish-yellow; cilia of the inferior orbit yellowish; wings grayish. ♂. Face yellowish-gray; lamellæ of the hypopygium whitish; the last joint of the fore tarsi enlarged: hind tibiæ somewhat thickened. ♀. Face white; feet plain. Long. corp. 0.18—0.20. Long. al. 0.20—0.22.

Dark green, bright; the last segments of the abdomen are usually dark bronze-colored, and sometimes the color of the body is everywhere very coppery. Antennæ black; the third joint almost round, still with a sharp projection at the tip. Front metallic green. The face of the male not very narrow, yellowish gray; the face of the female much broader, whitish. Palpi black, dusted with whitish on the edge, particularly in the female. Cilia of the inferior orbit yellowish, sometimes nearly whitish. Hypopygium with elliptic, whitish lamellæ of moderate size, which are bordered with black on the upper and apical margin; the latter is somewhat jagged. Coxæ black; fore coxæ with black hairs and bristles, only very slightly dusted with white. Feet black; the last third of the fore and middle femora, as also somewhat more than the last quarter of the hind femora, reddish luteous-yellow or almost yellowish-red; the hind femora before the tip with a seta, not ciliated upon their under side, even in the ♂. The tibiæ show only at the very extreme base a lighter color; in the ♀ all tibiæ are of a plain structure, in the ♂ the hind tibiæ are conspicuously thickened. The ♀ has plain tarsi, in the male the last joint of the fore tarsi is flattened from the side, and enlarged above into a lobe; the first joint of the hind tarsi in both sexes is but little fringed with thorn-like bristles. Cilia of the tegulæ black. Wings grayish with brownish-black veins; the last section of the fourth longitudinal vein has a rather strong flexure in the middle, but from that point runs nearly parallel with the third longitudinal vein; the ♂ has no swelling of the costa at the tip of the first longitudinal vein.

Hab. Fort Resolution, Huds. Bay Territory. (Kennicott.)

7. D. acuminatus Loew. ♂ and ♀.—Obscure viridis, pedum nigrorum tibiis anticis ex flavo fuscis, facie albâ, ciliis oculorum inferioribus albis, tegularum ciliis nigris, lamellis hypopygii magnis, acutis.

Dark green; the feet black, fore tibiæ brownish-yellow; face white; cilia of the inferior orbit white, of the tegulæ black; the large lamellæ of the hypopygium pointed at the end. Long. corp. 0.15. Long. al. 0.14—0.15.

Syn. *Dolichopus acuminatus* Loew, Neue Beitr. VIII, 12, 4.

Male. Dark green. Face narrow, white. Antennæ black; their third joint short. Front metallic green. Lamellæ of the hypopygium white, large, spatule-shaped, pointed, so that the upper and the lower margin strike together and there is no distinct apical margin; the upper one has a narrow black border and is ciliated with minute black hairs. The black femora with a bluish-green reflection, and their extreme tip brownish-yellow; fore tibiæ upon the greatest part of the upper side brownish-yellow, dark brown beneath; fore tarsi brownish-black with yellow base; middle tibiæ and middle tarsi brownish-black, still the base of the latter yellowish-brown; hind tibiæ and hind tarsi entirely black, the latter sparsely bristly upon the first joint. Cilia of the tegulæ black. Wings hyaline; the costa at the tip of the first longitudinal vein not thickened; the end of the fourth vein converging towards the third; the hind transverse vein somewhat less steep than in *D. ovatus.*

Female. Very much like the male. The white face much broader than in the male, still not so broad as in the female of *D. albiciliatus.* The yellow coloring upon the upper side of the fore tibiæ is not only generally lighter than in the ♂, but also often distinctly observable upon the first half of the upper side of the middle tibiæ.

Hab. Washington. (Osten-Sacken.) Illinois. (Le Baron.)

8. D. ovatus Loew. ♂.—Obscure viridis, pedum nigrorum tibiis anticis ex flavo fuscis, facie albâ, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, lamellis hypopygii parvis, rotundato-ovatis.

Dark green; feet black, fore tibiæ brownish-yellow; face white; cilia of the inferior orbit whitish, of the tegulæ black; lamellæ of the hypopygium small, rounded-ovate. Long. corp. 0.15. Long. al. 0.14—0.15.

Syn. *Dolichopus ovatus* Loew, Neue Beitr. VIII, 13, 5.

Face narrow, white. Antennæ black, third joint short. Front metallic green. Cilia of the inferior orbit whitish. Lamellæ of the hypopygium white, rather small, roundish-ovate, on the upper and apical margin with a narrow black border, on the latter split into a bristle-like lobe and fringed with black bristles. Feet black; the femora with a somewhat greenish reflection; their extreme tip brownish-yellow; the root of the fore and middle tarsi are of the same color. Fore tibiæ upon the greatest part of the upper side brownish-yellow, beneath dark brown. Middle tibiæ and middle tarsi brownish-black. Hind tibiæ and hind tarsi black. Cilia of the tegulæ black. Wings hyaline; the costa at the tip of the first longitudinal vein not thickened. The end of the fourth longitudinal vein converges towards the third; the hind transverse vein straight and steep.

Hab. Middle States. (Osten-Sacken.)

Observation.—The ♀ of *D. ovatus*, which is not known to me, must resemble very much that of *D. acuminatus*. Besides the but slight discrepancy in the color of the feet, the difference consists probably in the coarser hairs on the fore coxæ; at least the hairs in the ♂ of *D. ovatus* are coarser and also longer than in that of *D. acuminatus*. The difference in the direction of the hind transverse vein, in the males of both species, is not sufficient to be relied upon for an easy discrimination of the ♀ of the same species.

II. Prevailing color of the feet yellowish.

A. *Cilia of the inferior orbit black.*

9. D. pachycnemus Loew. ♂ and ♀.—Aeneo-viridis, antennis, oculorum tegularumque ciliis nigris, coxis omnibus totis obscuris, pedibus flavis, dimidio tibiarum posticarum apicali, tarsis intermediis inde ab articuli primi apice, posticisque totis nigris.

♂. Tarsis anticis attenuatis, articulis tribus ultimis atris, compressis,

duobus ultimis valde dilatatis, femoribus posticis nigro-ciliatis, tibiis posticis incrassatis.

♀. Pedibus simplicibus, tarsis anticis inde ab articuli primi apice nigris.

Metallic green; antennæ, cilia of the inferior orbit and of the tegulæ black; all coxæ entirely dark; tarsi yellow; the whole second half of the hind tibiæ, the middle tarsi from the tip of the first joint and the whole hind tarsi black.

♂. Fore tarsi attenuated; the three last joints black, compressed, the two last joints much enlarged; hind femora ciliated with black; hind tibiæ incrassated.

♀. Feet plain, fore tarsi from the tip of the first joint blackened. Long. corp. 0.25—0.26. Long. al. 0.22.

Syn. ***Dolichopus pachycnemus*** **Loew, Neue Beitr. VIII, 13, 6.**

Dark metallic green, bright. Face of the ♂ narrow, ochre-yellow; face of the ♀ broad, grayish-yellow. Antennæ entirely black; the third joint ovate. Front bright, generally for the most part steel-blue. The cilia of the inferior orbit black. Thorax with a rather broad brass-colored middle line. Abdomen coppery towards the end. All the coxæ black, only their extreme tip somewhat brownish-yellow. Feet dark yellow; hind femora on the extreme tip darker, before the same with a strong bristle; all tibiæ with numerous bristles; hind tibiæ upon the entire second half black; middle tarsi from the tip of the first joint black; hind tarsi entirely black. Tegulæ with black cilia. Wings somewhat shorter than usual, in the ♀ somewhat more dusky than in the male, especially somewhat darker towards the fore margin.

Male. Fore tarsi not very much longer than the fore tibiæ; their first and second joints slender, stalk-like, yellow; the first one much longer than the second; the following joints black, flattened; the third somewhat broader towards the end; the fourth much enlarged, of a nearly triangular form, beset upon the upper side with short, close, minute black hairs; the fourth joint is likewise much enlarged, still not as broad as the third, and of a more ovate form. Hind tibiæ much thickened, stoutest in the middle, and marked upon the upper side with a narrow pale line running from the middle to the tip; hind femora ciliated beneath with long black hairs. Lamellæ of the hypopygium dingy yellow, with a broad black border, of moderate size and of a rather round shape, jagged on the apical margin and fringed with black bristles.

Female. Feet plain; the fore tarsi rather blackish already from the tip of the first joint, which is sometimes the case in ♂, but only in very dark-colored specimens.

Hab. Middle States. (Osten-Sacken.) Illinois. (Kennicott.)

10. D. brevipennis Meig. ♂ and ♀.—Aeneo-viridis, antennis, oculorum tegularumque ciliis nigris, coxis anticis praeter basim pedibusque flavis, triente tibiarum posticarum apicali, tarsis intermediis inde ab articuli primi apice, posticisque totis nigris.

♂. Tarsis anticis attenuatis, articulis duobus ultimis atris, compressis, ultimo eximie dilatato, femoribus posticis pallide-ciliatis.

♀. Pedibus simplicibus, tarsis anticis inde ab articuli primi apice nigris.

Metallic-green; antennæ, cilia of the inferior orbit and of the tegulæ black; fore coxæ, excepting the basis, and feet yellow; the last third of the hind tibiæ, the middle tarsi from the tip of the first joint and the whole hind tarsi black.

♂. Fore tarsi attenuated, the two last joints black, flattened, the last one extremely enlarged; the hind femora ciliated with pale hairs.

♀. Feet plain; the fore tarsi from the tip of the first joint black. Long. corp. 0.24—0.25. Long. al. ♂ 0.22; ♀ 0.24—0.25.

Syn. *Dolichopus plumitarsis* (var. β.) Fallen, Dol. 10, 4.

Dolichopus brevipennis Meigen, Syst. Beschr. IV, 89, 27.—Stannius, Isis, 1831, 60, 12.—Zetterstedt, Ins. Lapp. 700, 8.—Staeger, Kröyer Tidsskr. IV, 23, 13.—Zetterstedt, Dipt. Scand. II, 603.—Walker, Dipt. Brit. I, 160, 10.

Dark metallic green, bright. Front green. Antennæ black. Face of the ♂ grayish-yellow; that of the ♀ grayish-white, slightly yellowish, much broader than in the ♂. Palpi brown. Cilia of the inferior orbit black. Hypopygium black. Lamellæ large, oblong-ovate, dingy-yellowish, with a broad black border, on the apical margin somewhat jagged and fringed with crooked black bristles. The hind coxæ blackish, only on the extreme tip yellow. Fore coxæ yellow, hairy with black; on the outside of the basis with a somewhat triangular greenish-black spot. Feet yellow. Hind femora before the end only with one bristle; in the ♂ they are sparsely ciliated beneath with very long, yellowish hairs. On the hind tibiæ the last third at least is black; hind tibiæ of the ♂ perceptibly stronger than those of the ♀, but not near so strong as those of the male of *D. pachycnemus*; they have no large bare spot upon their hind side, but at the end of the upper side a straight, pale, longitudinal line occupying the whole of their last third. The fore tarsi of the ♂ are about 1½ the length of the tibiæ; their three first joints are style-like, very attenuated, generally brownish-yellow; their two last joints are black, flattened from the side, the penultimate but little, the last joint on the contrary very much enlarged. The fore tarsi of the ♀ are plain, blackish from the tip of the first joint. Middle tarsi of both sexes plain, black from the tip of the first joint; upon the second half of the upper side of their first joint a single stronger bristle is inserted. Hind tarsi always altogether black. Cilia of the tegulæ black. Wings of the ♂ somewhat less grayish than those of the ♀, proportionally somewhat shorter and more pointed, with a strong swelling of the costa near the tip of the first longitudinal vein. The hind transverse vein almost perpendicular; the last portion of the fourth longitudinal vein not broken.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Observation.—The identity of Mr. Kennicott's specimens with the European *D. brevipennis* may be considered as doubtless, after the most careful comparison.

B. *Cilia of the inferior orbit pale.*

A. *Cilia of the tegulæ pale.*

1. Antennæ black, at the utmost the larger portion of the first joint red.

11. D. longimanus Loew. ♂ and ♀.—Aeneo-viridis, facie maris pallide ochraceâ, fœminæ ex flavo cinerascente, antennis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, coxarum anticarum dimidio basali obscuro, pedibus flavis, tarsis posticis totis nigris; maris ultimo tarsorum anticorum articulo valde dilatato femoribusque posticis ciliatis.

Metallic green; the face of the ♂ pale ochre-yellowish, that of the ♀ yellowish-gray; antennæ black; cilia of the inferior orbit and of the tegulæ yellowish; basal half of the fore coxæ dark; feet yellow with entirely black hind tarsi, last joints of the ♂ fore tarsi enlarged and ♂ hind femora ciliated. Long. corp. 0.26—0.27. Long. al. 0.27—0.28.

Syn. *Dolichopus longimanus* Loew, Neue Beitr. VIII, 14, 7.

Bronze-green, rather bright. Face of the ♂ narrow, pale ochre-yellow; face of the ♀ rather broad, light yellow-grayish. Antennæ entirely black, lower corner of the third joint with a scarcely perceptible lighter coloring; third joint of the antennæ in the ♂ short ovate, in the ♀ almost round. Front bright, green or blue-green. The cilia of the inferior orbit yellow.

Upper side of the thorax somewhat pruinose, with a coppery middle stripe and with a somewhat coppery-colored mark on each side before the transverse suture, sometimes coppery on a larger extent. Basal portion of the fore coxæ blackish beyond the middle; on the middle and hind ones this coloring extends almost as far as the extreme tip. Feet yellow; fore tarsi black at the tip only, middle ones from the tip of the first joint; hind tarsi entirely black; the hind femora before the tip with a bristle. Tegulæ with yellowish cilia. Wings rather large, hyaline; the fourth longitudinal vein not broken.

Male. The lamellæ of the hypopygium whitish, on the upper margin with a narrow, on the apical one with a broader black border, ovate; their apical margin is fringed with black bristles and jagged on its lower part. Fore tarsi slender and nearly twice as long as the tibiæ; the four first joints yellow; first joint as long as four-fifths of the tibiæ; second joint half as long as the first; the third one but little shorter than the second; the fourth only about half as long as the third; the fifth joint but little longer than the fourth, black, flattened, beset upon the upper margin with appressed black hairs. Hind femora upon the second half of the under side closely ciliated with yellow hairs. Hind tibiæ somewhat stout, without being actually thickened; they are glabrous upon the anterior half of their hind side. Costa near the tip of the first longitudinal vein with an elongated swelling.

Hab. English river. (Kennicott.) West Point, N. Y. (Osten-Sacken.)

12. D. brevimanus Loew. ♂.—Aeneo-viridis, facie albâ, antennarum nigrarum articulo primo subtus rufo, ciliis oculorum inferioribus albis, tegularum ciliis pallide flavicantibus, pedibus flavis, coxis anticis concoloribus, tarsis anticis ex flavo pallide ferrugineis, intermediis inde ab articuli primi apice posticisque totis cum tibiarum apice nigris.

Metallic-green; face white; the first joint of the black antennæ upon the under side red; cilia of the inferior orbit white, of the tegulæ yellowish; the fore coxæ and feet yellow; the fore tarsi pale rusty-brownish; middle ones from the tip of the first joint and the whole hind ones, including the tip of the tibiæ, black. Long. corp. 0.17. Long. al. 0.17.

Syn. *Dolichopus brevimanus* Loew, Neue Beitr. VIII, 14, 8.

Metallic-green, bright. Face white. Antennæ black; the whole lower margin of the first joint red; third joint ovate, not rounded at the tip. Front bright bluish-green. Cilia of the inferior orbit white. Lamellæ of the hypopygium white, of medium size and of ovate form, upon the upper and apical margin with a narrow black border, and fringed with black bristles; on the apical margin somewhat jagged. Fore coxæ yellowish-white, without minute black hairs upon the anterior side; middle and hind coxæ blackish with whitish-yellow tip. Feet light yellow; hind femora beset with somewhat longer minute black hairs, without being actually ciliated. Hind tibiæ plain, upon the hind side without glabrous stripe, at the tip blackish. Fore tarsi only as long as the tibiæ and but little darker than those, yellow-brownish; middle tarsi black from the tip of the first joint; hind tarsi entirely black. Tegulæ with pale yellowish cilia. Wings hyaline, towards the fore margin with a faint brownish-gray tinge; costa near the tip of the first longitudinal vein although somewhat stouter, not actually thickened; the fourth longitudinal vein not broken.

Hab. Washington. (Osten-Sacken.)

13. D. socius Loew. ♂.—Aeneo-viridis, facie albâ, antennarum nigrarum articulo primo subtus rufo, ciliis oculorum inferioribus albis, tegularum ciliis dilute flavicantibus, pedibus flavis, coxis anticis concoloribus, tarsis anterioribus inde ab articuli primi apice, apice tibiarum posticarum tarsisque posticis totis nigris.

Metallic-green; face white; the first joint of the black antennæ upon the under side red; cilia of the inferior orbit white; cilia of the tegulæ pale yellowish; fore coxæ and feet yellow, the four anterior tarsi from the tip of the first joint, the tip of the hind tibiæ and the whole hind tarsi black. Long. corp. 0.17. Long. al. 0.17.

Syn. *Dolichopus socius* Loew, Berl. Entom. Zeitschr. VI, 211, 60.

Metallic-green, bright. Face white. Antennæ black; the whole lower margin of the first joint red, the third joint ovate, not rounded at the tip. Front bright, bluish-green. Cilia of the inferior orbit white. Lamellæ of the hypopygium white, of medium size, ovate, on the upper and apical margin with a narrow black border and fringed with black bristles, on the apical margin somewhat jagged. Fore coxæ yellowish-white, without minute black hairs upon the front side; middle and hind coxæ blackish, with yellowish tip. Feet pale yellow; hind femora upon the under side with but extremely short hardly visible hairs; hind tibiæ blackish at the tip; upon the hind side without glabrous stripe; fore tarsi but little longer than the tibiæ, rather slender, blackened from the tip of the first joint, still so that the extreme basis of the second and sometimes even that of the third joint remain pale; the last joint of the fore tarsi is light rusty-brownish; middle tarsi from the tip of the first joint black; hind tarsi entirely black. Cilia of the tegulæ pale yellowish. Wings hyaline, towards the fore margin with a faint brownish-gray tinge; the costa near the tip of the first longitudinal vein only very little stouter, but not thickened; fourth longitudinal vein not broken.

Hab. Illinois. (Le Baron.)

Observation.—In order to distinguish *D. socius* from the very like *D. brevimanus*, it is only necessary to pay attention to the difference in the length and coloring of the fore tarsi and also to the different nature of the hairs on the under side of the hind femora. From *D. subciliatus, nudus* and *splendidus*, *D. socius* differs by its hind tibiæ, which are distinctly blackish at the tip, whereas in *D. subciliatus* and *nudus* they are only slightly infuscated at the tip, and altogether yellow as far as the extreme tip in *D. splendidus.* From *D. subciliatus* and *D. splendidus* it further differs by the red coloring of the lower margin of the first joint of the antennæ and by the hind femora of the ♂, which are not ciliated; from all three above named species it differs by the plain fore tarsi of the ♂.

14. D. nudus, n. sp. ♂ and ♀.—Viridis, nitidus, coxis anticis pedibusque flavis, apice tibiarum posticarum subfusco, antennis præter inferum articuli primi marginem tarsisque posticis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus.

♂. Tarsis anticis elongatis tenuibus, articulo ultimo dilatato atro, femoribus posticis non ciliatis.

♀. Pedibus simplicibus, tarsis anticis inde ab articuli primi apice nigris.

Green, bright; fore coxæ and feet yellow; tip of the hind tibiæ brownish; hind tarsi black; lower margin of the first joint of the black antennæ red; cilia of the inferior orbit and of the tegulæ yellowish.

♂. Fore tarsi elongated, slender, their enlarged last joint black; hind femora not ciliated.

♀. Feet plain; fore tarsi from the tip of the first joint blackened. Long. corp. 0.21—0.22. Long. al. 0.25.

Male. Metallic-green, bright. Front metallic-green. Antennæ black; the under side of the first joint yellowish-red; third joint rather blunt at the tip. Face ochre-yellow; palpi yellow. Cilia of the inferior orbit pale yellowish. Hypopygium black; lamellæ of medium size, ovate, white, with a rather narrow black border, on the apical margin jagged and fringed with black bristles. Four posterior coxæ blackish with yellow tip. Fore coxæ yellow, only somewhat blackened at the extreme basis, beset upon the anterior side with delicate black hairs, which reach nearly to their base. Feet pale yellow. Hind femora before the tip with a bristle, upon the under side only with very short minute pale hairs. Hind tibiæ stout but not exactly thickened, upon the first half of the hind side without hairs, at the extreme tip brownish. Fore tarsi twice as long as the tibiæ; their four first joints very thin, yellow; first joint nearly as long as the three following ones together; the third somewhat shorter than the second; the fourth hardly half as long as the third; the fifth joint black, flattened, broad, still not as large as in *D. batillifer;* upon its upper margin it is beset with appressed minute black hairs. Middle tarsi from the tip of the first joint blackened; hind tarsi entirely black. Cilia of the tegulæ yellowish-white. Wings hyaline; near the tip of the first longitudinal vein with a long but not very thick swelling, which gradually merges into the costa; fourth longitudinal vein not broken.

Female. Wings and feet plain, fore tarsi from the tip of the first joint blackened. All the rest as in the male.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Observation.—The resemblance of the present species with *D. subciliatus* is so great that, as both occur in the same region, I was for a long time in doubt whether I should consider them as two species. As the unfringed under side of the hind femora of my two ♂ of *D. nudus* does not seem to be rubbed off; as, in both sexes, the first joint of the antennæ is tinged with red on the under side, and as there are some other differences besides (which will be seen by the comparison of the descriptions of both species), I am led to the conclusion that there is a specific difference between *D. nudus* and *D. subciliatus*. It is very striking how closely allied the species of some groups of North American *Dolichopus* are.

15. D. subciliatus, n. sp. ♂.—Viridis, nitidus, coxis anticis pedibusque flavis, apice tibiarum posticarum subfusco, antennis tarsisque

posticis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus.

♂. Tarsis anticis elongatis tenuibus, articulo ultimo dilatato atro, femoribus posticis rare flavo-ciliatis.

♀. . . . .

Green, shining; fore coxæ and feet yellow; tip of the hind tibiæ brownish; antennæ and hind tarsi black; cilia of the inferior orbit and of the tegulæ yellowish.

♂. Fore tarsi elongated, slender; the enlarged last joint black; the hind femora sparsely ciliated with yellow.

♀. . . . . Long. corp. 0.21—0.22. Long. al. 0.25.

Metallic-green, bright. Front metallic-green. Antennæ black; on the under side of the first joint I am not able to discover any lighter coloring; third joint rather blunt at the tip. Face grayish-yellow, nearly ochre-yellow. Palpi yellow. Cilia of the inferior orbit pale-yellowish. Hypopygium black; lamellæ of medium size, ovate, white, with narrow black border, on the apical margin somewhat jagged and fringed with black bristles. The four posterior coxæ blackish with yellow tip. Fore coxæ yellow, only at the extreme basis somewhat blackened, upon the anterior side beset with very delicate black hairs, which do not reach to their base. Feet pale yellow. Hind femora with a bristle before the tip, upon the greater part of the under side sparsely ciliated with moderately long yellowish hairs. Hind tibiæ stout, but not exactly thickened, not hairy upon the first half of the hind side; brownish at the extreme end. Fore tarsi twice as long as the tibiæ; their four first joints very slender, yellow; the first joint nearly as long as the three following ones together; the third somewhat shorter than the second; the fourth hardly half as long as the third; the fifth joint black, flattened, broad, still not as large as in *D. batillifer;* upon its upper edge it is beset with appressed minute black hairs. Middle tarsi from the tip of the first joint blackened. Hind tarsi entirely black. Cilia of the tegulæ yellowish-white. Wings hyaline, somewhat grayish, at the tip of the first longitudinal vein with a long but not very stout swelling, which gradually merges into the costa; fourth longitudinal vein not broken.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Observation.—The necessary data for the distinction of this species from the foregoing, is contained in the description of the latter.

16. D. splendidus Loew. ♂.—Aeneo-viridis, lætissime cupreo micans, pedibus flavis, coxis anticis tibiisque posticis totis concoloribus, antennis tarsisque posticis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus.

♂. Tarsis anticis modice elongatis, articulo ultimo dilatato atro, femoribus posticis confertim flavido-ciliatis.

♀. . . . .

Metallic-green, with a brilliant coppery-red reflection; feet and fore coxæ yellow, hind tibiæ not darker at the tip; antennæ and hind tarsi black; cilia of the inferior orbit and of the tegulæ yellowish.

♂. Fore tarsi but moderately elongated; the enlarged last joint black; hind femora closely ciliated with yellowish.

♀. . . . . Long. corp. 0.24. Long. al. 0.23—0.24.

Syn. *Dolichopus splendidus* Loew, Neue Beitr. VIII, 14, 9.

Bronze-green, with a brilliant coppery-red reflection, very bright. Face pale-yellowish. Antennæ entirely black; the third joint short-ovate. Front bright green with a coppery-red reflection. Cilia of the inferior orbit pale yellowish. Upper side of the thorax with an almost purplish spot on each side before the transverse suture. Lamellæ of the hypopygium dingy whitish, rather large and of an oval form, on the upper and apical margin narrowly bordered with black, on the latter jagged and fringed with black bristles. The four posterior coxæ blackish, yellow only at the extreme tip. Fore coxæ entirely yellow, beset upon their anterior side with rather minute black hairs, which do not reach to their base. Feet yellow. Hind femora before the tip with a bristle and upon the greater part of their under side closely ciliated with very long yellowish hairs. Hind tibiæ although stout, but not exactly thickened, without hairs upon the anterior half of the hind side. Fore tarsi not quite 1½ times the length of the tibiæ; the four first joints yellow; the first to the third stalk like, still not quite as slender as in the previous and in the three following species; the fourth joint somewhat broader, particularly towards its tip; the first joint nearly as long as the three following taken together, the third somewhat shorter than the second and the fourth distinctly shorter than the third; the fifth joint black, flattened, broad, particularly towards its tip, still by far not as large as in *D. batillifer;* upon its upper margin it is beset with appressed minute black hairs. Middle tarsi blackened from the tip of the first joint; hind tarsi entirely black. Cilia of the tegulæ whitish. Wings hyaline, a little grayish, of a rather equal breadth; the costa near the tip of the first longitudinal vein with an elongated but not very stout swelling; the fourth longitudinal vein not broken.

Hab. Illinois. White Mountains, N. H. (Osten-Sacken.)

Observation 1.—I believe I possess also the ♀ of this species in a single specimen, and would not doubt it at all if the tip of the hind tibiæ did not show a rather distinct brown coloring, which is not perceptible in the ♂. All the other marks in the ♀ are precisely as they might be expected in the ♀ of the above described ♂. The fore tarsi are blackened from the tip of the first joint.

Observation 2.—*D. splendidus* differs from *D. subciliatus* not only by being much brighter, but particularly by the much less perceptible lengthening of the fore tarsi and by the much longer and much closer ciliation of the hind femora of the male.

17. D. batillifer Loew. ♂ and ♀.—Aeneo-viridis, pedibus flavis, coxis anticis tibiisque posticis totis concoloribus, antennis tarsisque posticis nigris, horum basi flavâ, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, maris ultimo tarsorum anticorum articulo admodum dilatato.

Metallic-green; fore coxæ and feet yellow; the tip of the hind tibiæ not darker; antennæ and hind tarsi black, the latter at the base yellow; cilia of the inferior orbit and of the tegulæ yellowish; the last joint of the fore tarsi of the ♂ remarkably enlarged. Long. corp. 0.26. Long. al. 0.25.

Syn. *Dolichopus batillifer* Loew, Neue Beitr. VIII, 15, 10.

Metallic-green, bright. Face of the ♂ narrow, more light ochre-yellowish than golden-yellow; the face of the ♀ broader and yellowish-white. Antennæ quite black, the lower corner of the first joint only somewhat lighter; the third joint short. Front green, or bluish-green, bright. Cilia of the inferior orbit yellowish. The more bronze-colored middle line of the thorax often hardly perceptible; on each side before the transverse suture a bronze-colored spot. Fore coxæ yellow, upon the whole anterior side with a black pubescence. Hind coxæ only at the extreme tip yellow. Hind femora with a bristle before the tip. Fore tarsi black only at the tip. Middle tarsi blackened from the tip of the first joint, still the base of the first and of the second joints is often not quite black. The hind tarsi are of the same color. Cilia of the tegulæ yellowish. Wings grayish-hyaline; the fourth longitudinal vein not broken.

Male. Lamellæ of the hypopygium whitish, of moderate size and of a rather oval shape; on the upper and apical margin they are narrowly bordered with black; on the latter very much jagged and fringed with black bristles. Hind femora very closely ciliated with yellow hairs on the middle of the under side. Fore tarsi about 1½ times the length of the tibiæ; their three first joints slender and stalk-like, the first as long as the second and third taken together; the second about 1½ times the length of the third; the fourth joint somewhat more than half as long as the third and somewhat broader; upon the whole under side and upon the upper side, excepting the tip, whitish; the fifth joint somewhat longer than the third and fourth taken together, flattened, extremely broad, black with a silk-like reflection; upon its outside this reflection takes a handsome silvery hue when viewed in a very oblique direction. Hind tibiæ considerably thickened, the greatest thickness somewhat before the middle; the anterior half of their hind side without pubescence. The costa near the tip of the first longitudinal vein with a rather elongated swelling.

Hab. West Point, N. Y.; Illinois. (Osten-Sacken.) Connecticut. (Norton.) White Mountains, N. H. (Osten-Sacken.)

18. D. eudactylus Loew. ♂ and ♀.—Aeneo-viridis, pedibus flavis, coxis anticis tibiisque posticis totis concoloribus, antennis tarsisque posticis nigris, horum basi flavâ, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, maris duobus ultimis tarsorum anticorum articulis dilatatis et femoribus posticis ciliatis.

Metallic-green; fore coxæ and feet yellow; hind tibiæ not darker at the tip; the black hind tarsi with yellow root; cilia of the inferior orbit and of the tegulæ yellowish; the two last joints of the fore tarsi of the ♂ enlarged and the hind femora ciliated. Long. corp. 0.26. Long. al. 0.25.

Syn. *Dolichopus eudactylus* Loew, Neue Beitr. VIII, 16, 11.

Metallic-green, bright. Face of the ♂ narrow, ochre-yellowish; the face of the ♀ broader and yellowish-white. Antennæ entirely black, the lower corner of the first joint hardly somewhat lighter; third joint short. Front green, or bluish-green, bright. Cilia of the inferior orbit yellowish. The more bronze-colored middle line of the thorax usually but little distinct; on each side before the suture a bronze-colored spot. Fore coxæ yellow, upon the anterior side with black pubescence. The four posterior coxæ yellow only at the extreme tip. Feet yellow; hind femora with a bristle before the tip. The color of the fore tarsi changes from brown into black towards the tip; middle tarsi blackened from the tip of the first joint; the hind tarsi are of the same color. Cilia of the tegulæ yellowish. Wings grayish-hyaline, the fourth longitudinal vein not broken.

Male. The lamellæ of the hypopygium whitish, of medium size and of an elongated, ovate shape, on the upper and apical margin narrowly bordered with black, on the latter much jagged and fringed with partly black, partly yellowish bristles. Hind femora upon the under side sparsely ciliated with very long yellowish hairs. Hind tibiæ although somewhat stout, but not thickened; the two-thirds of their hind side from the base are without hairs. Fore tarsi over 1½ times the length of the tibiæ; their three first joints slender, stalk-like; the second joint measures nearly three-fourths of the length of the first, and the third more than three-fourths of the length of the second; the fourth joint is almost as long as the third, flattened somewhat broader at the end, still even here not half as broad as it is long, white, with a handsome silvery reflection; upon its upper margin with hardly visible short minute black hairs; the fifth joint is hardly shorter than the fourth, flattened, and somewhat broader than the previous one, black, beset upon the upper margin with short appressed minute black hairs. The costa near the tip of the first longitudinal vein with a not very considerable but quite distinct swelling; the margin of the wing between the apex and the tip of the fifth longitudinal vein is less rounded than usual, so that there is a trace of a shallow sinus.

Hab. New York. (Osten-Sacken.) Mass. (Sanborn.)

19. D. tonsus Loew. ♂ and ♀.—Aeneo-viridis, pedibus flavis, coxis anticis tibiisque posticis totis concoloribus, antennis tarsisque posticis nigris, horum basi flavâ, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, maris duobus ultimis tarsorum anticorum articulis dilatatis et femoribus posticis non ciliatis.

Metallic-green; fore coxæ and feet yellow, the hind tibiæ not darker at the tip; antennæ and hind tarsi black, the latter at the basis yellow; cilia of the inferior orbit and of the tegulæ yellowish; in the ♂ the two

last joints of the fore tarsi enlarged, and the hind femora not ciliated. Long. corp. 0.26. Long. al. 0.25.

SYN. *Dolichopus tonsus* LOEW, Neue Beitr. VIII, 16, 12.

Metallic-green, bright. Face of the ♂ narrow, more light ochre-yellowish than golden-yellow; the face of the ♀ broader and yellowish-white. Antennæ entirely black, the lower corner of the first joint only lighter; the third joint short. Front green, or bluish-green, bright. Cilia of the inferior orbit yellowish. A bronze-colored middle line of the thorax is not distinct; on each side before the transverse suture a bronze-colored spot. Fore coxæ yellow, upon the anterior side with rather delicate minute black hairs, which gradually disappear towards their base. Hind coxæ only at the extreme tip yellow. Feet yellow; hind femora with a bristle before the tip. The coloring of the fore tarsi in the ♀ gradually changes towards the tip into brown and black; middle and hind tarsi black from the tip of the first joint, still the base of the second joint yellow. Cilia of the tegulæ yellowish. Wings grayish-hyaline; the fourth longitudinal vein not broken.

Male. Lamellæ of the hypopygium whitish, of medium size and of an elongated ovate form, on the upper and apical margin narrowly bordered with black, on the latter much jagged and fringed with partly black, partly yellowish bristles. Hind femora not ciliated upon the under side. Hind tibiæ of ordinary stoutness; their whole hind side uniformly beset with minute black hairs. The fore tarsi more than 1½ times the length of the tibiæ; the three first joints slender, stalk-like; the second joint is equal to about two-thirds of the length of the first, and the third to about three-fourths of the length of the second; the fourth joint is nearly as long as the third, flattened, at the end somewhat broader, still even here not half so broad as long, white, with a handsome silvery reflection; upon its upper margin with hardly visible and short minute black hairs; the fifth joint as long as the fourth, flattened, and somewhat broader than the previous one, black, beset upon its upper margin with short and appressed minute black hairs. Costa near the tip of the first longitudinal vein without swelling; between the apex of the wing and the tip of the fifth longitudinal vein the margin shows a shallow sinus.

Hab. Washington. (Osten-Sacken.)

Observation.—The ♀ of the three species described above are very easy to confound. The characters by which they can be distinguished are as follows: 1. for *D. batillifer* ♀: The costa near the tip of the first longitudinal vein with a slight trace of a swelling, perceptible only to a very attentive observer; this swelling is rather elongated; the apex of the wing somewhat broader than in the ♀ of the two other species; the fore coxæ beset with rather coarse minute black hairs reaching almost to the base. 2. for *D. eudactylus* ♀: The costa near the tip of the first longitudinal vein with a slight trace of a swelling, which has only a very trifling extent in length; the apex of the wing somewhat narrower than in *D. batillifer*, but somewhat broader than in *D. tonsus;* the fore coxæ covered with rather coarse minute black hairs reaching till very near the base. 3. for *D. tonsus* ♀: The costa near the tip of the first longitudinal vein without any trace of a swelling; the tip of the wing somewhat narrower than in the two other species; the black pubescence of the fore coxæ more delicate and not reaching as far towards the base as in the two latter species. Whether the slight differences in the coloring of the tarsi, perceptible in the specimens of these species compared by me, are sufficient for their sure distinction, can only be decided by the examination of a larger number of specimens.

2. Antennæ altogether or for the most part yellowish-red.

20. D. tener Loew. ♂.—Viridis, facie ex flavo albidâ, antennis rufis, oculorum ciliis inferioribus tegularumque ciliis albidis, pedibus pallide flavis, ultimo tarsorum anticorum articulo maris modice dilatato, nigro.

Green; face yellowish-white; antennæ red; cilia of the inferior orbit and of the tegulæ whitish; feet pale yellow; the enlarged last joint of the fore tarsi of the male black. Long. corp. 0.15. Long. al. 0.17.

Syn. *Dolichopus tener* Loew, Neue Beitr. VIII, 17, 13.

Green, bright. Face yellowish-white. Antennæ yellowish-red, the apical margin of the third joint blackened; arista with a very short but still perceptible pubescence. Front metallic-green, bright. Cilia of the inferior orbit whitish. Upper side of the thorax not very bright. Lamellæ of the hypopygium white, rounded, slightly bordered with black, on the apical margin somewhat jagged and fringed with black bristles. Coxæ whitish-yellow, the middle ones upon the outside partly gray; the fore ones have, besides the black bristles near their tip, only a very short and delicate white pubescence. Feet whitish-yellow; hind femora before the tip with a bristle, and upon the second half of their under side ciliated with six to seven very long yellowish-white hairs. Fore tibiæ long and slender; hind tibiæ rather stout, but not thickened, only at the base of the hind side somewhat glabrous. Fore tarsi filiform, over $1\frac{3}{4}$ times the length of the tibiæ; the four first joints pale-yellowish, their relative length about as $5 : 4 : 3 : 1\frac{1}{3}$; their fifth joint but little shorter than the fourth, somewhat flattened, black, beset upon its upper side with rather appressed black hairs. Middle and hind tarsi from the tip of the first joint brownish. Cilia of the tegulæ yellowish-white. Wings hyaline, rather narrow; the costa near the tip of the first longitudinal vein with a distinct swelling; the third longitudinal vein not broken; the hind transverse vein perpendicular and straight.

Hab. Chicago. (Osten-Sacken.)

21. D. variabilis LOEW. ♂ and ♀.—Laete viridis, facie maris pallide aureâ, prope os albidâ, facie fœminæ totâ albâ, antennis rufis, oculorum ciliis inferioribus albidis, tegularum ciliis flavicantibus, pedibus flavis, alis cinereo-hyalinis.

Handsome green; the face of the ♂ pale golden-yellow, whitish below; the face of the ♀ white; antennæ red; cilia of the inferior orbit whitish, cilia of the tegulæ yellowish; feet yellow; wings grayish-hyaline. Long. corp. 0.19. Long. al. 0.19.

SYN. *Dolichopus variabilis* LOEW, Neue Beitr. VIII, 17, 14.

Handsome green, bright. Face of the ♂ more pale gold-colored than ochre-yellowish, near the oral border whitish; face of the ♀ proportionally narrow, white. Antennæ yellowish-red; their third joint short, ovate, generally red only at the base and on the under side, otherwise brownish-black, sometimes brown only at the tip or entirely reddish-yellow. Front bright green. Fore coxæ yellowish-white, beset, besides the black bristles near their tip, with very delicate minute whitish hairs. Middle and hind coxæ of the same color, but colored with black upon the greater part of the outside. Feet yellowish; hind femora before the tip with a bristle, in the ♂ ciliated upon the under side with very long pale-yellowish hairs. Fore tarsi of the ♂ about $1\frac{1}{2}$ times the length of the tibiæ; those of the ♀ hardly as long as the tibiæ, blackened from the tip of the first joint, plain also in the ♂. Middle tarsi of the same color as the fore tarsi. Hind tibiæ also in the ♂ not stout, but upon their basal half on the inside glabrous. Hind tarsi usually quite black; sometimes their first joint, with the exception of the tip, is only brownish or even yellowish; more seldom the basis of their second joint has also the same lighter coloring. Cilia of the tegulæ yellowish. Wings grayish hyaline, of rather equal breadth; the costa has in the ♂ near the tip of the first longitudinal vein a slight swelling; the fourth longitudinal vein is not broken; sometimes the apical portion of the anterior part of the wings shows a somewhat stronger grayish tinge.

Hab. New York. (Osten-Sacken.)

Observation.—D. variabilis is more variable in the coloring of the posterior tarsi than is usually the case with the species of the genus *Dolichopus*. I have received a female as belonging to the variety of *D. variabilis*, having light feet, which has the tegulæ ciliated with black, and differs besides from the other females undoubtedly belonging to *D. variabilis*, by the more clayish-yellow color of its wings. I cannot take it for the ♀ of the present species. In the coloring of the wings and in several other characters it approaches very much *D. luteipennis*, but as its hind tibiæ are without blots, it may perhaps not even belong to this species. I possess also some other females which I can only distinguish from the above described ♀ of *D. variabilis* by their black ciliated tegulæ. It seems therefore that either the females vary in the coloring of the cilia, or that we have here two exceedingly similar species.

22. D. luteipennis Loew. ♂.—Laete viridis, facie albidâ, antennis rufis, oculorum ciliis inferioribus albidis, tegularum ciliis flavicantibus, pedibus flavis, tarsis maris simplicibus, alis lutescentibus.

Handsome green; face whitish; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ yellowish; feet yellow; the fore tarsi of the ♂ plain; wings yellowish. Long. corp. 0.19. Long. al. 0.19.

Syn. *Dolichopus luteipennis* Loew, Neue Beitr. VIII, 18, 15.

Handsome green, moderately bright. The color of the face whitish, only upon its upper part somewhat more yellowish. Antennæ yellowish-red; their third joint short-ovate, perceptibly infuscated at the tip. Front bright, green-blue. Cilia of the inferior orbit whitish. Upper side of the thorax dusted, and hence somewhat dull, with a rather distinct brassy-yellow middle line. The pubescence of the abdomen is whitish, not only on the lateral margin, as in the resembling species, but also upon the greater part of the upper side. Lamellæ of the hypopygium of ordinary size, rounded-ovate, on the upper and apical margin narrowly bordered with black, the latter jagged and fringed with black bristles. Fore coxæ yellowish-white, and except some black bristles near their tip, beset with only very delicate minute whitish hairs. Middle and hind coxæ of the same color, the former darker only at the basis. Hind femora before the tip with a black bristle, upon the under side ciliated with about 6 to 7 yellowish hairs; hind tibiæ rather stout, but not thickened; in very dark colored specimens sometimes near the tip and also upon the fore and hind side with a little brown blot; upon their hind side only a short glabrous stripe, which does not reach to their middle; fore tarsi slender, plain, about 1⅓ times the length of the tibiæ; only their last joint black. Middle tarsi from the tip of the first joint brownish, towards the end blackish-brown, in paler specimens generally but moderately brownish. Hind tarsi generally entirely black, sometimes paler towards the end of the first joint or also at the end of the second joint; in the palest specimens brownish only towards the end. Cilia of the tegulæ yellowish. Wings rather distinctly clayish-yellow; veins clayish-yellow; the fourth longitudinal vein not broken; the costa near the tip of the first longitudinal vein with a little swelling.

Hab. Washington. (Osten-Sacken.)

Observation.—With regard to a female which may be taken for that of the present species, the necessary remarks have been made in the observation to the previous species. However unusual the inconstancy in the coloring of the tarsi of *D. luteipennis* and of *D. variabilis* may be, I have no doubt that these varieties do not represent different species. At least the most attentive examination of the specimens distinguished by the coloring of their feet, did not lead to the discovery of the slightest difference in the plastic characters in one as well as in the other species.

B. *Cilia of the tegulæ black.*

1. Fourth longitudinal vein broken.

a. Antennæ black.

23. D. ramifer Loew. ♂ and ♀.—Obscure viridi-aeneus, thoracis dorso aeneo-nigro, facie albâ, antennis nigris, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, alarum venâ longitudinali quartâ appendiculatâ.

Dark bronze-green, upper side of the thorax bronze-black; face white; antennæ black; cilia of the lower orbit whitish; cilia of the tegulæ yellowish; the fourth longitudinal vein with a stump of a vein. Long. corp. 0.13. Long. al. 0.13.

Syn. *Dolichopus ramifer* Loew, Neue Beitr. VIII, 19, 16.

Dark bronze-green, the upper side of the thorax more bronze-black. Face of the ♂ nearly as broad as that of the ♀, in both sexes white. Antennæ black; the lower corner of the first joint colored somewhat lighter; in the ♂ the third joint is rather long elliptic with a pointed tip, and the apparently bare arista inserted quite near the tip; in the ♀ it is perceptibly shorter, and has a less pointed tip, to which the arista is still more approximated. Front bluish-black, very bright. Cilia of the inferior orbit whitish. Upper side of the thorax bronze-black, or more dark bronze-green. Abdomen somewhat coppery. Fore coxæ dark yellow, at the extreme basis somewhat blackened, beset upon the fore side with short minute black hairs. Middle and hind coxæ blackish, dark yellow only at the tip. Feet dark yellow; the fore and middle tarsi from the tip of the second joint black; the hind tarsi, including the tip of the hind tibiæ, black. The hind femora somewhat broad, before the end with a bristle. Cilia of the tegulæ black. Wings hyaline-gray; the fourth longitudinal vein broken, so that its inferior angle is a right one and the superior is rounded, the former is supplied with a rather long stump of a vein.

Male. Lamellæ of the hypopygium white, rather small, roundish, at the upper and apical margin only with an extremely narrow dark border, on the latter but very little jagged and fringed with black bristles. Hind femora very sparsely ciliated with moderately long whitish-yellow hairs. Hind femora rather stout, the greater part of their hind side glabrous. Costa with a small swelling at the tip of the first longitudinal vein.

Hab. Nebraska. (Dr. Hayden.) Lake Winnipeg. (Kennicott.) New Rochelle, N. Y. (Osten-Sacken.)

b. Antennæ yellowish-red.

24. D. bifractus Loew. ♂ and ♀.—Aeneo-viridis, thoracis dorso pollinoso, opaco, abdomine cupreo-micante, facie albidâ, interdum ex flavo cinereâ, antennis rufis, ciliis oculorum inferioribus albidis, ciliis tegularum nigris, alarum venâ longitudinali quartâ appendiculatâ.

Bronze-green; upper side of the thorax not very bright, dull; abdomen with a coppery-red reflection; face whitish, sometimes more yellowish-gray; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ black; the fourth longitudinal vein with a stump of a vein. Long. corp. 0.22. Long. al. 0.17.

SYN. *Dolichopus bifractus* LOEW, Neue Beitr. VIII, 19, 17.

Bronze-green, but little shining. Face whitish, in not recently excluded specimens generally more yellowish-gray; in the ♂ it is not much narrower than in the ♀. Antennæ red; their third joint ovate, somewhat broad; at the point of insertion of the arista it is somewhat swollen and blackened; its apical half is often brownish. Arista with a very short but distinct pubescence. Front bronze-green, but opaque, on account of a very delicate light brownish-gray dust. Cilia of the inferior orbit whitish. Upon the upper side of the thorax the ground color, although bronze-green, is quite opaque, on account of a dense brownish-gray dust, which in fresh, not denuded specimens, altogether conceals it. Abdomen brighter metallic-green, in not recently excluded specimens rather coppery. Coxæ and feet yellow; the middle coxæ up to the tip gray; the front side of the fore coxæ sparsely beset with delicate minute black hairs, glabrous towards the basis. Hind femora before the tip with a bristle. Fore tarsi brownish, only the last joints really black. Middle tarsi from the tip of the first joint blackish; the extreme tip of the hind tibiæ, including the whole hind tarsi, black. Cilia of the tegulæ black. Wings with a rather dark grayish tinge; on the anterior margin and along the veins generally somewhat brownish; the fourth longitudinal vein broken twice at right angles; both angles sharp; as an exception, the upper one sometimes slightly rounded; at the lower angle there is generally a stump of a vein, whilst the upper one for the most part has none.

Male. Lamellæ of the hypopygium white, of moderate size, rather rounded, on the upper and apical margin narrowly bordered with black, on the latter somewhat jagged and fringed with black bristles. Fore tarsi 1¼ times the length of the tibiæ; first joint somewhat longer than the second and third taken together; fourth and fifth joints black, somewhat flattened, the upper edge of the fifth bearded with close black hairs. Hind tibiæ plain, their hind side not glabrous.

Hab. Chicago. (Osten-Sacken.) Nebraska. (Dr. Hayden.)

25. D. vittatus Loew. ♂.—Aeneo viridis, thoracis lineâ mediâ vittisque lateralibus orichalceis, facie albidâ, antennis rufis, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, tarsis maris simplicibus, alarum venâ longitudinali quartâ fractâ et appendiculatâ.

Bronze green; middle line and the two lateral stripes of the thorax brassy yellow; face whitish; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet yellow; tarsi of the ♂ plain; fourth longitudinal vein broken and furnished with a stump. Long. corp. 0.26—0.27. Long. al. 0.25—0.26.

Syn. *Dolichopus vittatus* Loew, Neue Beitr. VIII, 20, 18.

Bronze green, shining. Face rather broad for a ♂, whitish. Antennæ red, apical half of the third joint somewhat infuscated; arista with a short, distinct pubescence. Front metallic green, or greenish-blue, shining. Cilia of the inferior orbit yellowish-white. Upper side of the thorax green or blue, with a conspicuous, almost golden-yellow or more copper-colored middle-line, and with similar lateral stripes. Lamellæ of the hypopygium white, of moderate size, narrow-ovate in shape, with a narrow black margin on the upper and the apical edge; the latter jagged and fringed with black bristles. Coxæ and feet pale yellowish; the fore coxæ are beset on their anterior and inner side with numerous, on the outer side with very scarce, small, black hairs, besides the white pubescence which clothes them; the middle coxæ upon the greater part of their outside blackish. Hind femora before their end with a bristle. Hind tibiæ of the ordinary size, upon their hind side with a glabrous stripe, which extends beyond their second third. Fore tarsi plain, only very little longer than the tibiæ, from the middle of the third joint black; the middle and hind tarsi are black from the tip of the first joint. Wings grayish-hyaline, towards the fore margin somewhat more brown; costa near the tip of the first longitudinal vein with a very thick swelling; fourth longitudinal vein broken; superior angle of the fracture rounded, inferior one with only a short stump.

Hab. Chicago; Genessee, N. Y. (Osten-Sacken.)

26. D. cuprinus Wied. ♂ and ♀.—Aeneo-viridis, thoracis lineâ mediâ vittisque lateralibus orichalceis, facie ex flavo albidâ, antennis rufis, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, tarsorum anticorum apice in mare dilatato, alis basim versus non angustatis, venâ longitudinali quartâ fractâ.

Metallic green, middle line and lateral stripes of the thorax brassy yellow; face yellowish-white; antennæ red; cilia of the inferior orbit whitish. cilia of the tegulæ black; feet yellow; tip of the fore tarsi of the ♂ enlarged; wings towards the base not narrowed; fourth longitudinal vein broken. Long. corp. 0.25—0.26. Long. al. 0.24.

SYN. ***Dolichopus cupreus*** **SAY, Journ. Ac. Philad. III, 86, 9.**
Dolichopus cuprinus **WIEDEMANN, Zweifl. II, 230, 1.—WALKER, List III, 660.—LOEW, Neue Beitr. VIII, 20, 19.**

Metallic green, shining. Face whitish, with a more or less yellowish tinge, particularly that of the ♂, which is considerably narrower than that of the ♀. Antennæ yellowish-red, the apical half of the third joint often infuscated. Arista with short but distinct pubescence. Front shining, bluish-green. Cilia of the inferior orbit whitish-yellow. Upper side of the thorax green, often bluish-green, seldom blue, with a conspicuous yellow brass-colored, sometimes copper-colored middle line and with similar lateral stripes. Abdomen usually more bronze-green or coppery. Coxæ and feet pale yellowish; fore coxæ only on the inner margin of their anterior side with sparse minute black hairs, which are more distinct in the ♀ than in the ♂; middle coxæ upon the greater part of their outside, blackish. Hind femora with a bristle before the tip. Fore tarsi from about the middle of the third, middle and hind ones from the tip of the first joint, blackened. Cilia of the tegulæ black. Wings tinged with gray, towards the fore margin more grayish-brown, not more narrowed than usual towards the base; the fourth longitudinal vein broken, so that its inferior angle is a sharp right one and the superior is rounded; the former is supplied with a short stump of a vein.

Male. Lamellæ of the hypopygium of moderate size and of elongated-ovate form, white, narrowly bordered with black on the upper and apical margin; the latter jagged and beset with black bristles. Hind femora upon the second half of their under side sparsely ciliated with very long yellowish hairs. Hind tibiæ not thickened, upon their hind side with a glabrous stripe extending beyond the middle. Fore tarsi not one and a half times the length of the tibiæ, two first joints stalk-like; first joint nearly one and a half times the length of the second; three last joints slightly flattened, third joint upon its upper side very densely fringed with longer, the fourth with somewhat shorter black hairs; the three last joints of the tarsi are about as long as the second; the two last ones as long as the third.

Hab. Middle States. (Osten-Sacken.) Nebraska. (Dr. Hayden.)

Observation.—The determination of this species, the most common in the Middle States, is not doubtful when we compare the descriptions of *Say* and *Wiedemann*, which serve to complete each other. The ♀ is easily distinguished from that of *D. longipennis* by its less narrowed basis of the wings. Its distinction from the as yet unknown ♀ of *D. vittatus* must be very difficult, unless perhaps the proportional length of their feet affords an available mark of distinction. Two males measuring only 0.23 in length resemble in all plastic characters the ♂ of *D. cuprinus* so much that I take them merely for a smaller variety. A single, unfortunately not well-preserved ♂, distinguished by a somewhat larger size, may perhaps constitute a particular species, as the fourth longitudinal vein is less broken, and the three last joints of the fore tarsi are a little broader. It would not be safe, however, to decide upon a single specimen.

27. D. longipennis Loew. ♂ and ♀.—Aeneo-viridis, thoracis lineâ mediâ vittisque lateralibus orichalceis plerumque subobsoletis, facie ex flavo albidâ, antennis rufis, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, maris tarsorum anticorum apice dilatato et alis basim versus valde angustatis.

Metallic green; middle line and lateral stripes of the thorax of a brassy-yellow color, however, mostly indistinct; face yellowish-white; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet yellow; the tip of the fore tarsi of the male enlarged and its wings very much narrowed towards the basis. Long. corp. 0.26. Long. al. 0.26—0.27.

Syn. *Dolichopus longipennis* Loew, Neue Beitr. VIII, 21, 20.

Bronze green, shining. Face white, often more or less yellowish. Antennæ red, the second half of the third joint sometimes infuscated. Arista with a rather short but very distinct pubescence. Front shining, green or blue. Cilia of the inferior orbit whitish-yellow. Upper side of the thorax with a brass-colored middle line and similar lateral stripes, which, however, are less distinct than in the two previous species. Abdomen often very coppery, particularly upon its posterior half. Coxæ and feet pale yellowish; fore coxæ only on the inner margin of their anterior side with a few indistinct minute black hairs; middle coxæ upon the greater part of their outside grayish. Hind femora before the tip with a bristle. Fore tarsi blackened from the middle of the third joint; middle and hind tarsi infuscated from the tip of the first joint, and towards their end gradually colored with black. Tegulæ with black cilia. Wings tinged with gray, towards the fore margin more yellowish-brown, towards the basis narrower than in the related species; the fourth longitudinal vein not so much broken as in the two previous species, the lower angle of the fracture generally without stump, yet sometimes with a very short one.

Male.—Lamellæ of the hypopygium of moderate size and of an elongated ovate form, on the upper and apical margin bordered with black; the latter one very much jagged and fringed with black bristles. Hind femora not ciliated. Hind tibiæ not thickened, hairy upon their entire hind side. Fore tarsi somewhat longer than the tibiæ; two first joints stalk-like, the first hardly one and a quarter the length of the second; the three last joints taken together hardly longer than half the second joint, but very little flattened, tinged with black beyond the middle of the third joint; the third joint upon its upper edge densely fringed with longer, the fourth with somewhat shorter, black hairs. Wings of a remarkable length, unusually narrow near the basis; still their rounded anal angle projecting almost in the shape of a lobe; the costa near the tip of the first longitudinal vein with a but slight swelling.

Hab. Middle States; Washington, D. C. (abundant in June; Osten-Sacken); Chicago (id.).

Observation.—I am in possession of a ♀ which was communicated to me as that of the present species, but which I consider as that of *D. scapularis*. As *D. longipennis* sometimes occurs without distinct fracture on the fourth longitudinal vein, so it happens, on the contrary, that in some specimens of *D. scapularis* the fourth longitudinal vein is somewhat broken; they are however easily distinguished from *D. longipennis* by the pale coloring of their humeral callosities. The latter differs besides from the females of all related species by its wings, which are somewhat narrowed at the basis.

2. Fourth longitudinal vein not broken.

***a.* Antennæ red, at the utmost the third joint at the tip or almost entirely black.**

***α.* Humeral callosities of the same color with the thorax.**

28. D. hastatus, nov. sp. ♂ and ♀.—Viridis, antennis rufis, articulo tertio ex parte nigro, ciliis oculorum inferioribus flavis, tegularum ciliis nigris, pedibus flavis, tibiis intermediis maris ante apicem perspicue, fœminæ obsoletissime albido-notatis, tarsis intermediis maris apicem versus compressis, fœminæ subcompressis, alarum venâ longitudinali quartâ non fractâ.

Green; antennæ red; third joint partly black; cilia of the inferior orbit yellow, cilia of the tegulæ black; feet yellow; middle tibiæ before the tip with a white spot, which is very distinct in the ♂, and indistinct in the ♀; middle tarsi strongly flattened towards the tip in the ♂, and more slightly in the ♀; fourth longitudinal vein not broken. Long. corp. 0.22. Long. al. 0.22—0.23.

This species, distinguished by many peculiar marks, resembles in the structure of the ♂ arista *D. sagittarius* Loew, from Siberia. Bronze-green, shining. Face of the ♂ narrow and brassy-yellow; the face of the ♀ is much broader, and has a grayish-yellow tinge. Palpi yellow, in the ♀ towards the basis blackish. Antennæ reddish-yellow; their third joint short and rather rounded; its apical half black or brown; the arista of the ♀ is plain and rather stout; that of the ♂ is longer and more slender, enlarged at the tip into the shape of a lancet-like lamel pointed on both sides, the tip of which has a dingy-whitish coloring. Front shining bluish-green. Cilia of the inferior orbit yellow. Fore coxæ yellow, upon the anterior side with a delicate black pubescence. Middle and hind coxæ grayish-black, only the extreme tip and the trochanter yellow. Feet yellow. Hind femora before the tip with a bristle. Middle tibiæ with black tip, and before it, in the ♂, upon the upper side with a whitish spot, of which there is hardly a trace in the ♀. Hind tibiæ at the tip blackish-brown, in the ♂ upon the hind side with a narrow, linear, hardly distinct glabrous stripe. The tarsi have the tip of the first joint, the four following joints, and besides, the base of the first joint of the middle tarsi, black; the three last joints of the middle tarsi of the ♂ are distinctly, although not very strongly, flattened; this is also the case in the ♀, but less perceptibly so; this part of the middle tarsi viewed from the side seems distinctly stouter than when it is seen from above or below. The first joint of the hind tarsi with only two thorn-like bristles. Cilia of the tegulæ black. Wings grayish-hyaline; the last segment of the fourth longitudinal vein is inflected before its middle but not broken. The wings of the ♂ are somewhat narrower than those of the ♀, and have before the anal angle a very remarkable large bisinuated excision, so that the angle assumes the shape of an independent lobe-like appendage. Lamellæ of the hypopygium of moderate size, rounded-ovate, whitish, with a rather broad black border, on the upper and apical margin jagged and fringed with black bristles.

Hab. Sitka. (Sahlberg.)

29. D. plumipes SCOP. ♂ and ♀.—Viridis, humeris concoloribus, antennis rufis, articulo tertio præter basim nigro, facie aureâ, ciliis oculorum inferioribus flavis, tegularum ciliis nigris, pedibus flavis, articulo tarsorum intermediorum primo maris setulis nigris pennato, alarum venâ longitudinali quartâ non fractâ.

Green, including the humeral callosity; third joint of the red antennæ with the exception of its basis, black; face golden-yellow; cilia of the inferior orbit yellow; cilia of the tegulæ black; feet yellow; first joint of the middle tarsi of the ♂ feathered with black bristles; fourth longitudinal vein not broken. Long. corp. 0.17—0.16. Long. al. 0.18.

SYN. *Musca plumipes* SCOPOLI, Ent. Carn. 334, 895.

Dolichopus pennitarsis, FALLEN, Dolich. 11, 16.—MEIGEN, Zweifl. IV, 90, 29.—MACQUART, Suites, I, 446, 34.—STANNIUS, Isis, 1831, 63, 14. ZETTERSTEDT, Ins. Lapp., 709, 9.—STAEGER, Kroyer's Tidsskr. 30, 21.—ZETTERSTEDT, Dipt. Scand. II, 541, 35.

Dolichopus plumipes WALKER, Dipt. Brit. I, 162, 16.

Metallic-green, sometimes somewhat coppery. Antennæ yellowish-red, third joint, excepting its basis, blackened; that of the ♂ ovate, with a rather sharp angle at the end; that of the ♀ shorter. Front metallic-green. The face reaches lower here than in most other species of *Dolichopus;* that of the ♂ is rather narrow and golden-yellowish; that of the ♀ is broad and pale-grayish, dusted with whitish-yellow. Palpi yellow. Cilia of the inferior orbit yellow. Fore coxæ yellow, with a black pubescence anteriorly; middle and hind coxæ blackish, the extreme tip and the trochanter yellow. Feet yellow. Hind femora with a bristle before the tip. The middle tibiæ are but slightly infuscated near the tip; the tip of the hind tibiæ is somewhat blackish, this color occupying but a narrow extent. Fore and hind tibiæ plain in both sexes; the middle tibiæ only in the ♀; in the ♂ they are remarkably slender, only somewhat stouter at the basis and near the tip; on the upper side with a blackish-brown longitudinal line, which reaches from the incrassation at the base to that at the tip; they show besides, just before the apical incrassation, a small whitish, not always distinct, crossband. Fore and hind tarsi plain in both sexes; the former from the tip of the first joint, the latter altogether, black; middle tarsi also altogether black, plain in the ♀; their first joint in the ♂ is somewhat incrassated and densely ciliated on both sides with obliquely inserted black bristles. Cilia of the tegulæ black. Wings grayish-hyaline; fourth longitudinal vein not broken; in the ♀ they have the usual shape; in the ♂ the hind margin has a sinuated excision before the anal angle. The yellowish-white lamellæ of the hypopygium are of moderate size, elongated-ovate, narrowly bordered with black, fringed with black bristles along the upper and apical edge; the latter is somewhat jagged.

Hab. Sitka. (Sahlberg.)

Observation.—I have been able to compare a considerable number of North American specimens of this species, and do not find any difference between them and the European ones. At first it appeared to me that the arista of the former ones was perceptibly stouter than that of the latter. A more close examination showed, however, that this difference was merely illusory and produced by some dust on the American specimens in my possession. The appendages of the hypopygium of the North American specimens are likewise precisely similar to those of the European ones.

30. D. fulvipes Loew. ♂.—Viridis, nitidus, facie aureâ, antennis fulvis, articulo tertio præter basim nigro, ciliis oculorum inferioribus flavis, tegularum ciliis nigris, coxis anticis pedibusque fulvis; tibiarum intermediarum apice albo; tarsis intermediis simplicibus.

Green, shining; face golden-yellow; antennæ dark yellow, third joint, except its basis, black; cilia of the inferior orbit yellow; cilia of the tegulæ black; fore coxæ and feet dark yellow, tip of the middle tibiæ white; middle tarsi plain. Long. corp. 0.23. Long. al. 0.24.

Syn. *Dolichopus fulvipes* Loew, Berl. Ent. Zeit. VI, 512, 61.

Metallic-green, shining. Face golden-yellow, rather narrow. Antennæ saturate dark yellow; third joint elliptical, not rounded at tip, black, with yellow basis. Front metallic-green. Cilia of the inferior orbit yellow. Lamellæ of the hypopygium rather small, ovate, whitish, with a narrow black border, jagged at the tip and with black bristles round the edge. Fore coxæ saturate dark yellow, with black hairs; the four posterior coxæ blackish with a dark yellow tip; the rather stout feet also dark yellow; hind femora with a bristle before the tip; the middle tibiæ have at the tip, on the upper side, a whitish, distinctly swollen spot, which is bare of any hairs or bristles; upper side of the hind tibiæ with numerous bristles; there is no glabrous spot on their hind side. Tarsi plain; the four anterior ones are blackened from the tip of the first joint; the base of the second, sometimes also of the third joint, remain however pale; the hind tarsi are altogether black. Cilia of the tegulæ black. Wings grayish-hyaline, with a wide sinus on the hind margin, before the anal angle; costa hardly thickened near the tip of the first longitudinal vein; the last portion of the fourth longitudinal vein considerably inflected about the middle, without being broken.

Hab. Illinois. (Le Baron.) White Mountains, N. H. (Osten-Sacken.)

31. D. sexarticulatus, n. sp. ♂.—Aureo-viridis, nitidus, antennis rufis, ciliis oculorum inferioribus flavicantibus, ciliis tegularum nigris, coxis omnibus pedibusque flavis, tarsis posterioribus inde ab articuli primi apice ex fusco nigris, alarum venâ longitudinali quartâ non fractâ.

♂. Hypopygii apice flavo, lamellis albis late nigro-limbatis, tarsorum anticorum articulis tribus primis elongatis, flavis, articulis ultimis duobus brevibus compressis, pænultimo toto atro, ultimo in basi atro, in apice niveo et appendiculâ lamelliformi, cum articulo ipso concolore, instructo.

♀. . . . .

Gold-green, shining; antennæ red, cilia of the inferior orbit yellowish, on the tegulæ black; all coxæ and feet yellow, the middle and hind tarsi from the tip of the first joint brownish-black; the fourth longitudinal vein not broken.

♂. Tip of the hypopygium yellow, lamellæ white with a broad black border; the three first joints of the fore tarsi elongated, yellow, the two last ones short and broadly flattened; the penultimate entirely black; the last one black at the basis, snow-white at the tip, provided with a lamelliform appendage of the same color with this joint.

♀. . . . . Long. corp. 0.22. Long. al. 0.22.

Golden-green, rather shining, still the thorax rather distinctly dusted with ochre-yellow; front steel-blue; scutellum greenish-blue. Antennæ yellowish-red, the short third joint more brownish-red. The narrow face ochre-yellow. Cilia of the inferior orbit pale yellowish. Cilia of the tegulæ black. Hypopygium of moderate size, the basal half metallic-green or green-blue, the apical half yellow; the lamellæ rather large and broad, with a rather broad black border, fringed with black on the upper margin only; jagged as usual, on the apical margin and beset with crooked black bristles. Fore coxæ entirely yellow, with a delicate and short pubescence; near the tip with black bristles. Middle and hind coxæ of the same color, still the former more or less blackish at the basis. Femora and tibiæ yellow; hind femora upon the front side before the tip with a stout bristle; all femora glabrous upon their underside. Fore and middle tibiæ plain, rather slender, moderately bristled. Hind tibiæ very stout, thickened upon the basal half and with a large glabrous spot upon their hind side. Fore tarsi slender and nearly twice as long as the tibiæ; the elongated, but plain, three first joints yellow, of much decreasing length, the fourth joint deep black, short, broadly flattened, triangular; the fifth joint of the same shape, hardly somewhat longer than the fourth, deep black at the basis, snow-white at the broad tip; the ungues, pulvilli and empodium inserted at its lower end are of the ordinary structure; at the upper end there is a distinct elliptical lamel, which, like the joint itself, is deep black at the basis, and snow-white at the tip. Wings grayish-hyaline, rather narrow towards the basis; near the tip of the first longitudinal vein there is but a slight trace of a swelling of the costa; the latter, however, is rather stout from this point to the tip of the wing; the last segment of the fourth longitudinal vein is only moderately inflected upon its middle.

Hab. District Columbia. (Osten-Sacken.)

32. D. ruficornis Loew. ♂.—Viridis, humeris concoloribus, antennis rufis, oculorum ciliis inferioribus albis, tegularum ciliis nigris, pedibus flavis, articulo tarsorum anticorum ultimo dilatato, alarum venâ longitudinali quartâ non fractâ.

Green, including the humeral callosities; antennæ red; cilia of the inferior orbit white; cilia of the tegulæ black; feet yellow; last joint of the fore tarsi enlarged; fourth longitudinal vein not broken. Long. corp. 0.19. Long. al. 0.18.

Syn. *Dolichopus ruficornis* Loew, Neue Beitr. VIII, 21, 21.

Green, rather shining. Antennæ red; third joint somewhat longer than the two first taken together, of rather equal breadth; arista distinctly pubescent. Front bright bluish-green. Cilia of the inferior orbit whitish. Humeri of the same color as the remainder of the upper surface of the thorax. Upper side of the abdomen more golden green; the whitish pubescence on its sides occupies more space than usual. Lamellæ of the hypopygium of the ordinary size and rather rounded in shape, white, with a rather narrow black border along the upper and apical edge; the latter jagged and fringed with black bristles. Coxæ and feet pale yellowish; anterior side of the fore coxæ only with a very delicate whitish pubescence; middle coxæ with a blackish spot on their outside. Hind femora with a bristle before the tip and sparsely ciliated with long yellowish-white hairs on the latter half of their under side. Hind tibiæ of ordinary thickness, on their hind side only with a very short glabrous stripe near the basis. Fore tarsi more than once and a half the length of the tibiæ, slender; the four first joints stalk-like, yellowish; the two first joints, taken together, are somewhat longer than the tibia; the joints diminishing in length and stoutness from the first to the third; the fourth joint is equal to about one-third of the length of the third and is only slightly stouter than the latter; the fifth joint is black, as long as the fourth, somewhat flattened and bearded on its upper side with dense, somewhat incumbent, short, black hairs. Wings rather yellowish-gray, somewhat narrowed near the basis; the fourth longitudinal vein not broken; costa only slightly thickened at the tip of the first longitudinal vein.

Hab. Middle States. (Osten-Sacken.)

Observation.—If in determining a female specimen, this species is hit upon, and if its wings, instead of being yellowish gray, are distinctly gray, then it will be necessary to compare what has been said about such females in the observation to the twenty-first species.

β. Humeral callosity yellowish.

33. D. scapularis Loew. ♂ and ♀.—Viridis, humeris flavis, facie albidâ, antennis rufis, oculorum ciliis inferioribus albidis, ciliis tegularum nigris, pedibus flavis, tarsis maris simplicibus, alarum venâ longitudinali quartâ non fractâ.

Green with yellowish humeri; face whitish; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet yellow; tarsi of the ♂ plain; fourth longitudinal vein not broken. Long. corp. 0.25—0.26. Long. al. 0.25—0.26.

Syn. *Dolichopus scapularis* Loew, Neue Beitr. VIII, 22, 22.

Bright-green or bluish-green, the abdomen more golden-green, especially towards its tip, sometimes rather coppery. Face whitish, in the ♂ generally somewhat yellowish upon the upper half. Front shining, generally bluish-green, seldom green or blue. Antennæ yellowish-red; third joint short-ovate; generally slightly infuscated at the tip; arista distinctly pubescent. Cilia of the inferior orbit yellowish-white. Humeral callosity yellowish. The callosity between the root of the wing and the scutellum and generally also the margin of the latter are of the same color. Coxæ and feet pale yellowish; the front side of the fore coxæ is beset with delicate whitish hairs; there are some short minute black hairs on their inner side only, which however are not always easily discernible in the ♂. Middle coxæ upon their outside with an elongated blackish spot. Hind femora with a bristle before the tip. The two last joints of the fore tarsi of the ♀ are blackish-brown, still the brown color often begins already before the tip of the third joint and the tips of the first and second joints are also often somewhat infuscated; in pale-colored specimens the coloring of the middle and hind tarsi is the same, whilst in darker ones the distinct brown color begins already in the middle of the first joint. Cilia of the tegulæ black. Wings grayish, towards the fore margin somewhat yellowish-brown; fourth longitudinal vein not broken, still the inferior angle of the flexure is sometimes not rounded.

Male. Lamellæ of the hypopygium of moderate size, rather rounded, on the upper and apical margin with a rather broad black border, on the latter jagged and fringed with black bristles. Hind femora upon the second half of their under side ciliated with moderately long yellowish hairs. Hind tibiæ of the usual thickness, upon the hind side with a glabrous stripe, which reaches nearly to their middle. Fore tarsi somewhat over once and a quarter the length of the tibiæ, their joints decreasing in length, the last one somewhat more pale at the tip. Costa near the tip of the first longitudinal vein with a very slight swelling.

Hab.—Middle States; District Columbia (in June; Osten-Sacken); Illinois.

34. D. funditor Loew. ♂ and ♀. Viridis, humeris flavis, facie albidâ, antennis rufis, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, tarsorum anticorum articulis duobus ultimis in mare dilatatis, alarum venâ longitudinali quartâ non fractâ.

Green, with yellowish humeri; face whitish; antennæ red; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet yellow, the two last joints of the fore tarsi of the ♂ enlarged; fourth longitudinal vein not broken. Long. corp. 0.25. Long. al. 0.25.

Syn. *Dolichopus funditor* Loew, Neue Beitr. VIII, 22, 23.

Bright green or blue-green, the abdomen more golden-green, especially towards its end, sometimes rather coppery. Face whitish, in the ♂ generally somewhat yellowish upon the upper half. Front shining, generally blue-green, seldom blue or green. Antennæ yellowish-red; third joint short-ovate, generally slightly infuscated at the tip; arista with a distinct pubescence. Cilia of the inferior orbit yellowish-white. Humeral callosity yellowish. The callosity between the root of the wing and the scutellum is usually of the same color and generally also the margin of the latter. Coxæ and feet pale yellowish; the front side of the fore coxæ is beset with delicate white hairs; on their inner side there are also some short black hairs, which however are not always distinct in the ♂. Middle coxæ with an elongated blackish spot upon their outside. Hind femora with a bristle before the tip; two last joints of the fore tarsi black-brown in the ♀, still this brown color often begins before the tip of the third joint and the tip of the first and second joint also are usually somewhat infuscated; pale colored specimens have the same coloring on the middle and hind tarsi, whilst in darker specimens a distinct infuscation already begins in the middle of the first joint. Wings grayish, somewhat more yellowish-brown towards the fore margin; fourth longitudinal vein not broken.

Male. Lamellæ of the hypopygium of medium size, rather rounded, white, on the upper and apical margin with a narrow black border, on the latter jagged and fringed with black bristles. Hind femora upon the second half of the under side ciliated with not very long yellowish hairs. Hind tibiæ somewhat more slender than in the ♂ of the previous species, upon their hind side with a glabrous stripe extending beyond their middle. Fore tarsi once and a quarter the length of the tibiæ; the three first joints of moderate size and of decreasing length; fourth joint flattened, black, on its upper edge fringed with close black hairs; the fifth joint still more flattened, ovate, snow-white, upon its upper side with very short and fine minute snow-white hairs. The costa at the tip of the first longitudinal vein only with an insignificant swelling

Hab. Middle States. (Osten-Sacken.)

Observation.—Of this and of the preceding species I possess so many specimens taken together that I can entertain no doubt about having the ♀ of both before me. Unfortunately I found it impossible as yet to discover any reliable character to distinguish these females.

b. Antennæ black, at the utmost the greater part of the first joint red.

35. D. chrysostomus Loew. ♂.—Viridis, facie aureâ, antennis nigris, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, tarsis maris simplicibus.

Green; face golden-yellow; antennæ black; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet yellow; tarsi of the ♂ plain. Long. corp. 0.18. Long. al. 0.17.

Syn. *Dolichopus chrysostomus* Loew, Neue Beitr. VIII, 23, 24.

Green, shining. Face narrow, dark golden yellow. Antennæ altogether black; third joint elongated-ovate with a pointed tip; arista rather slender with a somewhat imperceptible pubescence. Front shining blue-green. Cilia of the inferior orbit whitish. Upper side of the thorax but little dusted; on each side, at the transverse suture, with a coppery-brown spot. Abdomen with rather apparent dark incisures, which, in fully colored specimens, are margined with coppery-red. The lamellæ of the hypopygium are large, rounded, yellowish-white, with a not very narrow black border on the upper and the apical edges; the latter is jagged and fringed with black bristles. Fore coxæ yellow, somewhat blackened only at the base, clothed anteriorly with short black hairs, middle and hind coxæ blackish, their extreme tip only yellow. Feet yellow. The hind femora with a bristle before the tip and with short yellowish hairs on the underside, although not ciliated with them in the true sense of the word. Hind tibiæ not stout; their posterior side without glabrous stripe. Fore tarsi plain, but little longer than the tibiæ, gradually infuscated towards the tip. Middle and hind tarsi infuscated from the tip of the first joint; however the second and third joints of the middle and the second joint of the hind tarsi, except its tip, are still rather pale. Tegulæ with black cilia. Wings tinged with gray; more brownish-gray along the anterior border; costa with a hardly perceptible thickening at the tip of the first longitudinal vein; fourth longitudinal vein not broken.

Hab. Washington, D. C. (Osten-Sacken.)

36. D. præustus Loew. ♂.—Aeneo-viridis, nitens, facie ex cinereo ochraceâ, antennis nigris, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus testaceis, liturâ femorum anteriorum, femorum posticorum apice, tarsis anterioribus inde ab articuli primi apice, tarsis posticis totis cum tibiarum posticarum apice nigris, alarum ex cinereo hyalinarum apice nigro.

Bronze-green, shining; face grayish ochre-yellow; antennæ black; cilia of the inferior orbit whitish; cilia of the tegulæ black; feet luteous-yellowish; a stripe on the fore-femora, the tip of the hind femora, the four anterior tarsi from the tip of the first joint, and the hind tarsi altogether, as well as the tip of the hind tibiæ, black; the tip of the grayish-hyaline wings black. Long. corp. 0.21. Long. al. 0.21.

Syn. *Dolichopus præustus* Loew, Berl. Ent. Zeitschr. VI, 212, 62.

Bronze-green, shining. Face grayish-yellow. Antennæ altogether black; their third joint short. Front metallic green, somewhat dusted and therefore but little shining. Occipital bristles very long. Cilia of the inferior orbit whitish. Last segments of the abdomen generally somewhat colored with coppery. Lamellæ of the hypopygium of medium size only, broad, with very rounded upper border, white, bordered with black, bristly along the upper and apical edge; the latter somewhat jagged. Coxæ blackish, their tip brownish-yellow; the fore coxæ with a grayish-white dust and hairy with black. Feet brownish-yellow; the fore femora on the under side with a brownish-black longitudinal stripe; the hind femora before the tip with a black bristle and tinged with black on the upper side of the tip; the delicate hairs on their under side are somewhat longer than in many other species, although they cannot be called cilia. The hind tibiæ are blackened towards the tip, and have, towards the end of the upper side, a rather distinct dimple or impression; their hind side has no glabrous stripe. Tarsi plain, the four anterior ones from the tip of the first joint, the two hind ones altogether black. Cilia of the tegulæ black. Wings grayish hyaline, the extreme tip of the wing black; the third longitudinal vein is somewhat directed backwards towards its end, so that its tip is nearer to the tip of the fourth vein than is usual in other species; the last portion of the fourth longitudinal vein is almost straight; on the spot where its usual flexure is situated, the surface of the wing is distinctly convex; costa but indistinctly thickened at the tip of the first longitudinal vein.

Hab. Illinois; (Le Baron.)

Observation.—It is to be presumed, judging from the analogy of similar European species, that the ♀ of *D. præustus* has no black spot at the tip of the wing.

37. D. comatus Loew. ♂ and ♀.—Viridis, facie candidâ, antennis nigris, ciliis oculorum inferioribus albis, tegularum ciliis nigris, pedibus flavis, femorum posticorum apice superne nigro, alarum venâ longitudinali quartâ non fractâ.

Green, face snow-white, antennæ black; cilia of the inferior orbit white; cilia of the tegulæ black; feet yellow, the tip of the hind femora black above; the fourth longitudinal vein of the wings not broken. Long. corp. 0.17. Long. al. 0.16.

Syn. *Dolichopus comatus* Loew, Neue Beitr. VIII, 23, 25.

Green or bronze-green, shining. Face snow-white, that of the ♀ rather broad. Antennæ altogether black, the third joint short-ovate; arista with an almost imperceptible pubescence; cilia of the inferior orbit white. Front shining green. Abdomen with distinct dark incisures. Fore coxæ yellow, blackened only at their very base; in the ♂ their inner side and their tip only, in the ♀ almost the whole anterior side is beset with small blackish hairs. Middle and hind coxæ blackish, their very tip only yellow. Feet yellow; the hind coxæ with a bristle before the tip and tinged with brownish-black on the upper side of their tip. Hind tibiæ slender, their tip black. Fore and middle tarsi black from the tip of the first joint; hind tarsi altogether black. Cilia of the tegulæ black. Wings tinged with gray; fourth longitudinal vein not broken.

Male. Lamellæ of the hypopygium hardly medium-sized, ovate, whitish, on their apical edge with a vestige only of a narrow black border and very little jagged, ciliated with hairs, most of which are pale. Hind tibiæ on their hind side without any bare stripe. First joint of the fore tarsi a little longer than the four following ones taken together; the latter are deep black and somewhat flattened. The bristles on the upper side of the middle tibiæ are very prolonged and become very slender towards their tip. The first joint of the middle tarsi is of considerable length, ciliated on its upper side with about nine or ten very long, bristle-like black hairs.

Hab. Pennsylvania; Maryland; District Columbia. (Osten-Sacken.)

38. D. scoparius, nov. sp. ♂.—Viridis, facie candidâ, antennis nigris, articulo primo infra rufo, ciliis oculorum inferioribus pallidis, ciliis tegularum nigris, pedibus flavis, tarsis ex parte nigris, articulis anticorum ultimis duobus subdilatatis et utrinque nigro-pennatis, venâ alarum longitudinali quartâ non fractâ.

Green, face snow-white, antennæ black, the first joint upon the under side red; cilia of the inferior orbit pale; cilia of the tegulæ black; feet yellow, tarsi partly black; two last joints of the fore tarsi somewhat thickened, feathered with black on both sides; the fourth longitudinal vein of the wings not broken. Long. corp. 0.24. Long. al. 0.24.

Bright metallic green. Antennæ black, the lower edge of the first joint red; third joint short. Face snow-white; palpi brownish-yellow, the basis black. Cilia of the inferior orbit yellowish. Front metallic green. Fore coxæ yellow, blackened at the base only to a moderate extent, upon the front side with a black pubescence. Middle and hind coxæ blackish, only the extreme tip and the trochanter yellow. Feet yellow. Hind femora before the tip with a bristle. Tibiæ plain, with rather numerous black bristles; hind tibiæ at the tip not blackened, upon the hind side without glabrous spot. Fore tarsi from the tip of the third joint black, not quite once and a half the length of the tibiæ; their two last joints are only very slightly enlarged, but closely feathered with bristle-like minute black hairs upon the front and hind side, so that they seem to be rather broad. Middle and hind tarsi plain, from the tip of the first joint black; upon the upper side of the first joint of the middle tarsi, not far from the tip, there is a stout black bristle. Cilia of the tegulæ black. Wings grayish-hyaline, of the usual form; fourth longitudinal vein not broken and the fore margin, near the tip of the first longitudinal vein, not thickened. The lamellæ of the hypopygium of the only specimen which I possess are almost destroyed; I am able to state only that they are yellowish.

Hab. Maine. (Packard.) Mass. (Sanborn.)

39. D. discifer Stann. ♂ and ♀.—Viridis, facie albâ, antennis nigris, ciliis oculorum inferioribus albis, tegularum ciliis nigris, pedibus flavis, femorum posticorum apice concolore, tarsorum anticorum articulo ultimo nigro, in mare modice dilatato, alarum venâ longitudinali quartâ non fractâ.

Green; face white, antennæ black; cilia of the inferior orbit white, cilia of the tegulæ black; feet yellow, tip of the hind femora not blackened; the last joint of the fore tarsi black, in the ♂ moderately enlarged; fourth longitudinal vein of the wings not broken. Long. corp. 0.25—0.26. Long. al. 0.24.

Syn. *Dolichopus patellatus* Meigen, Syst. Beschr. IV, 86, 22.
Dolichopus discifer Stannius, Isis 1831, 57, 10.
Dolichopus confusus Zetterstedt, Ins. Lapp., 709, 7.
Dolichopus patellatus Staeger, Kroyer's Tidskr. IV, 21, 12.
Dolichopus discifer Zetterstedt, Dipt. Scand., II, 533, 28.
Walker, Dipt. Brit. I, 163, 20.
Dolichopus tanypus Loew, Neue Beitr. VIII, 24, 26.

Bright green. Face white, in the ♂ upon the upper half generally more yellowish-white. Antennæ black; first joint upon the under side red, third joint elongated-ovate, rather large; arista with a very short, but distinct pubescence; it is inserted beyond the middle of the third joint. Front shining green. Cilia of the inferior orbit white. Fore coxæ yellowish, beset upon their front side with delicate white hairs, and only on the inner side in the ♀ with some black hairs. Middle and hind coxæ blackish, at the tip yellowish. Feet yellowish; hind femora with a bristle before the tip. Hind tibiæ somewhat brownish-black only at their extreme tip, particularly on the inner side. Fore tarsi, although darker from the tip of the first joint, but only the last joint black; middle tarsi from the tip of the first joint black; hind tarsi entirely black, seldom only brown at the base of the first joint. Cilia of the tegulæ black. Wings grayish hyaline; fourth longitudinal vein not broken, towards its end somewhat more converging with the third than in most of the other species.

Male. Lamellæ of the hypopygium not very large, elongated ovate, white, on the upper and apical margin with a very narrow black border, on the latter somewhat jagged and fringed with black bristles. Hind femora not ciliated. Hind tibiæ slender, without glabrous spot upon their hind side. Fore tarsi exceedingly slender and elongated, the four first joints yellow, still somewhat darker beyond the tip of the first joint, each following joint more slender than the previous one; the first joint is equal to three-fourths of the tibia, and is somewhat longer than the second and third taken together; second till fourth joints but very little decreasing in length; fifth joint deep black, somewhat flattened, so that it appears like a small ovate disk; at its extreme basis it is colored with yellowish-white. Wings towards the basis rather narrow, though of the usual form. Costa near the tip of the first longitudinal vein with an almost imperceptible swelling.

Hab. English River; Red River. (Kennicott.) Sitka. (Sahlberg.) White Mountains, N. H. (Osten-Sacken.)

Observation.—A very close examination renders it certain that this species, as it appears widely spread in North America, is identical with the European *D. discifer.* I had overlooked this identity, while describing it from American specimens, as *D. tanypus.*

40. D. lobatus Loew. ♂.—Viridis, facie dilute lutescente, antennis nigris, inferioribus oculorum ciliis flavicantibus, tegularum ciliis nigris, pedibus flavis, femorum posticorum apice concolore, tarsis anticis inde ab articuli primi apice nigricantibus, articulo ultimo nigro, in mare latissimo.

Green; face pale luteous-yellow; antennæ black; cilia of the inferior orbit yellowish, cilia of the tegulæ black; feet yellow, the tip of the hind femora not darker; fore tarsi from the tip of the first joint blackish; the last joint black, very much enlarged in the ♂. Long. corp. 0.27. Long. al. 0.26.

Syn. *Dolichopus lobatus* Loew, Neue Beitr. VIII, 24, 27.

Bright green. Face pale yellow, rather whitish below. Antennæ black, first joint red with blackish upper edge; third joint short-ovate. Front shining, green. Cilia of the inferior orbit yellowish. Lamellæ of the hypopygium rather large, ovate, white, on the second half of the upper margin and on the apical margin with a rather broad black border, jagged on the latter and beset with black bristles. Fore coxæ yellow, upon the front side with minute yellowish hairs, only on their inner side also with a few minute black hairs. Middle and hind coxæ blackish, at the tip yellow. Feet yellow. Hind femora not ciliated; before the tip with a bristle. Hind tibiæ somewhat thickened about the middle and colored with darker yellow upon their second half; their hind side without glabrous stripe. Fore tarsi hardly once and a half the length of the tibiæ; three first joints stalk-like and very slender; from the tip of the first joint black-brown; first joint somewhat longer than the second and third taken together; the third only half as long as the second; fourth joint very short, somewhat broader than the previous one, brownish-black; fifth joint black, nearly as long as the second, flattened, very much enlarged, so that it has an almost semi-obcordate shape; the close black pubescence of its upper edge makes it appear still larger and broader. Middle tarsi from the tip of the second joint black. Hind tarsi entirely black. Wings gray, towards the fore margin more grayish-brown, narrow; towards the base the hind margin has two very remarkable sinuses, a longer one between the fifth and sixth longitudinal veins, and a shorter one behind the sixth longitudinal vein, so that there is a lobe between them; the anal angle of the wing also projects considerably as a rounded lobe; the fourth longitudinal vein only with a slight flexure, somewhat more converging towards its end with the third than is the case in the related species; the costa at the tip of the first longitudinal vein with a rather imperceptible swelling.

Hab. English River. (Kennicott.)

Observation.—I believe I know also the ♀ of this species. It differs from the ♀ of *D. discifer*, by its somewhat larger size, its somewhat more yellowish face, and by the fore tarsi being not only shorter, but also tinged with black already from the tip of the first joint. The fore coxæ have, upon the greater part of their anterior side, some minute black hairs. Although the fore coxæ of the ♀ have in many species a more extended black pubescence than the ♂, the difference between this ♀ and the above described ♂ is more striking than usual. This circumstance will render it somewhat doubtful that the two sexes really belong together, until a positive observation settles the question.

41. D. setosus Loew. ♂.—Viridis, nitidus, facie et inferioribus oculorum ciliis albis, antennis tegularumque ciliis nigris, coxis anticis pedibusque flavis, tarsis anterioribus inde ab articuli primi apice tarsisque posticis totis cum tibiarum posticarum apice nigris; femora postica pilis flavis ciliata; tibiæ posticæ setis longis armatæ, alarum vena longitudinalis quarta non fracta.

Green, shining; the face and the cilia of the inferior orbit white; the antennæ and the cilia of the tegulæ black; fore coxæ and feet yellow, the four anterior tarsi from the tip of the first joint and the whole hind ones, including the tip of the hind tibiæ black; hind femora ciliated with yellowish hairs; hind tibiæ armed with long bristles; fourth longitudinal vein of the wings not broken. Long. corp. 0.23—0.24. Long. al. 0.25.

SYN. *Dolichopus setosus* LOEW, Berl. Ent. Zeitschr. VI, 213, 63.

Green, shining. The narrow face white. Antennæ black, the lower edge of the first joint brownish; third joint ovate, not rounded at the tip. Front rather dark green, but little shining. Cilia of the inferior orbit whitish. Lamellæ of the hypopygium of medium size, broad, rather rounded, white with narrow border, fringed on the upper and apical margin with black bristles, the latter but little jagged. Fore coxæ pale yellowish, dusted with white; their short pubescence near the tip and upon the inner half of their front side black. Middle and hind coxæ blackish, with pale yellowish tip. Feet pale yellowish; the hind femora have but one bristle before the tip and are ciliated with long yellowish hairs upon the under side; the hind tibiæ are black at the tip and have upon their upper, as well as upon their under side, longer bristles than usual; I am not able to distinguish a glabrous spot upon their hind side, but at the tip of the upper side there is a short pale line. Fore and middle tarsi from the tip of the first joint, hind tarsi entirely, black. Wings grayish hyaline; costa at the tip of the first longitudinal vein distinctly, but not strikingly thickened; the last section of the fourth longitudinal vein moderately inflected upon its middle; the hind transverse vein perpendicular.

Hab. Massachusetts. (Le Baron.)

42. D. incisuralis LOEW. ♂ and ♀.—Viridis vel aeneo-viridis, facie albâ, antennis nigris, ciliis oculorum inferioribus albidis, tegularum ciliis nigris, pedibus flavis, femorum posticorum apice concolore, tarsis anticis inde ab articuli primi apice nigris, in mare simplicibus, alarum venâ longitudinali quartâ non fractâ.

Green or bronze-green; face white; antennæ black; cilia of the inferior orbit whitish, cilia of the tegulæ black, feet yellow, the tip of the hind femora not darker; fore tarsi from the tip of the first joint black, plain even in the ♂; fourth longitudinal vein not broken. Long. corp. 0.17. Long. al. 0.16.

SYN. *Dolichopus incisuralis* LOEW, Neue Beitr. VIII, 25, 28.

Green or bronze green, well preserved specimens purer green, shining. Face white. Antennæ black; the inferior edge of the first joint red or reddish-brown, which, however, is not distinctly perceptible in some specimens; third joint short; arista with a hardly perceptible pubescence. Cilia of the inferior orbit white. Front green. Abdomen with remarkably distinct black incisures. Fore coxæ whitish-yellow, only at the extreme basis somewhat blackened; their front side is beset upon its basal half with numerous black, very delicate and rather sparse hairs. Middle and hind coxæ black, only at the extreme tip somewhat yellowish. Feet yellowish. Hind femora before the tip with a bristle. Fore and middle tarsi blackened from the tip of the first joint; still the whole first joint is also somewhat dusky. Hind tibiæ with a black tip; hind tarsi entirely black. Cilia of the tegulæ black. Wings grayish; fourth longitudinal vein only with a slight flexure and towards its end somewhat more than usually converging with the third longitudinal vein.

Male. Lamellæ of the hypopygium of medium size and of a rounded-ovate form, white; on the upper and apical margin with a rather narrow black border, on the latter jagged and fringed with black bristles; hind femora ciliated with moderately long and very delicate pale hairs. Hind tibiæ slender, plain, upon their hind side without glabrous stripe. Fore tarsi plain, about once and a quarter the length of the tibiæ; their first joint is longer than the two following, but somewhat shorter than the three following taken together. Costa at the tip of the first longitudinal vein with a very short but distinct swelling.

Hab. Trenton Falls, N. Y. (Osten-Sacken.)

Gen. III. **GYMNOPTERNUS.**

The following characters of the genus *Gymnopternus* are to be observed: The first joint of the antennæ is hairy upon the upper side, the third almost never remarkably elongated; arista dorsal. The hypopygium is entirely disengaged, the exterior appendages are lamelliform and of moderate size. The first joint of the hind tarsi is shorter than the second and not provided with bristles. The third and fourth longitudinal veins of the wings are parallel or almost so.

The last of these characters is applicable to all the North American species of *Gymnopternus* known to me. Among the species of the old world which have been placed into the genus *Gymnopternus* there certainly is a whole group of closely related species the third and fourth longitudinal veins of which decidedly converge. However, as this group must necessarily be separated from the genus *Gymnopternus*, it could not prevent me from adopting the parallelism of the third and fourth longitudinal veins as characteristic marks of *Gymnopternus*. Precisely this character distinguishes in the easiest manner the species of *Gymnopternus* from those of the following genera, which, like *Gymnopternus*, have the upper edge of the first joint of the antennæ hairy, and are without bristles upon the first joint of the hind tarsi.

Most of the species of *Gymnopternus* are small and have shorter antennæ, but a more distinctly pubescent arista than the species of *Dolichopus*. They are much poorer in suitable plastic characters for the distinction of the species than the latter. The feet of the males are very seldom ornamented.

The color of the cilia of the inferior orbit is also of the highest importance for the determination of the species of the present genus. Unfortunately it cannot be so easily observed as in the species of *Dolichopus*. Its discrimination in some species, of which I have only single specimens, was totally impossible; as to others, I often remained uncertain. In the former case I have been silent about their color, and in the latter I did not use any positive expressions. Under these circumstances it was impossible to use the color of the cilia of the lower orbit as a basis for a subdivision. This is, however, but of little moment, as the cilia of the lower orbit seem to be black in almost all North American species of *Gymnopternus*. Another important mark for the distinction of the species is the hairy or glabrous surface of the scutellum, provided there is a sufficient number of well preserved specimens; otherwise, if the specimens are few or not well preserved, this mark will be rather uncertain. I did not wish to omit characters of this kind altogether, but have to request the reader not to place too much confidence in them, especially when my expressions seem to imply doubt. The same rule applies to the form of the lamellæ of the hypopygium. In many species they have the form of an erect crescent, fastened by its lower point. This form will only then be recognized, when they are not closely applied to the hypopygium with the concave side; if the latter is the case, then they appear only as small lamellæ, with rounded ends, and the length of which is greater than their breadth. I have, then, called them rounded, without further remarks about their form; to prevent mistakes, however, I must state that this applies only to the convex edge. I have omitted other characters in the descriptions, because they are common to all North American species known to me; for instance, the presence of only one bristle at the end of the hind femora, etc.

This genus derives its name (γυμνός naked, and πτέρνη the sole) from the absence of bristles upon the first joint of the hind tarsi, whereby it differs from the genus *Dolichopus*, to which its species formerly belonged.

The species described by Say as *Dolichopus obscurus* seems to be a *Gymnopternus*. I do not know of any other species of North American *Gymnopternus*, described by a previous author. This undoubtedly arises from the circumstance that the species of *Gymnopternus*, on account of their small size and their apparent insignificance, have been less noticed by collectors. The number of species known to me shows that North America is very rich in species of this genus. To produce a really satisfactory treatise on the subject would require much more material than that over which I could dispose, because the positive discrimination and exact delineation of the characteristics of the species present many difficulties.

I will give now a dichotomic table for the purpose of determining the species, and a synopsis of the systematic arrangement. As will be seen from the latter, the bulk of the species known to me, are very nearly related and form but a single group; whereas but a small number show characters which isolate them from the others.

Table for the determination of the Species.

1	Color non-metallic.	1 **flavus** *Lw.*
	Color metallic.	2
2	Third joint of the antennæ with an elongated point.	2 **subulatus** *Lw.*
	Third joint of the antennæ without elongated point.	3
3	Prevailing color of the feet black.	4
	Prevailing color of the feet yellow.	6
4	Third joint of the antennæ remarkably hairy.	3 **scotias** *Lw.*
	Third joint of the antennæ with scarcely perceptible hairs.	5
5	Wings grayish hyaline.	4 **barbatulus** *Lw.*
	Wings somewhat tinged with blackish.	5 **tristis**, n. sp.

6	Tip of the hind femora blackish.	6 **exilis** *Lw.*
	Tip of the hind femora not blackish.	7
7	Thorax dark violet.	8
	Thorax not violet.	9
8	Coxæ up to the tip somewhat blackish.	7 **spectabilis** *Lw.*
	Coxæ yellowish-white.	8 **albiceps** *Lw.*
9	Fore coxæ up to the tip blackish.	9 **subdilatatus** *Lw.*
	Fore coxæ entirely yellow, or at the utmost somewhat infuscated near the base.	10
10	Hind tarsi from the tip of the first joint black.	10 **lævigatus** *Lw.*
	Hind tarsi towards the tip but little dusky, at the utmost brownish, never black.	11
11	Antennæ entirely black.	12
	Antennæ partly red.	16
12	Lamellæ of the hypopygium black.	11 **frequens** *Lw.*
	Lamellæ of the hypopygium not black.	13
13	Lamellæ of the hypopygium dark yellow.	12 **lunifer** *Lw.*
	Lamellæ of the hypopygium white.	14
14	Interior appendages of the hypopygium penicillate.	13 **fimbriatus** *Lw.*
	Interior appendages of the hypopygium not penicillate.	15
15	Third and fourth longitudinal veins but slightly converging.	14 **despicatus** *Lw.*
	Third and fourth longitudinal veins altogether parallel.	15 **difficilis** *Lw.*
16	Middle and hind coxæ from the basis distinctly blackish.	17
	Middle and hind coxæ yellow, or, at the utmost, the former with a grayish tinge.	19
17	Lower part of the face of the ♀ distinctly hairy.	16 **nigribarbus** *Lw.*
	The lower part of the face not hairy.	18
18	Antennæ small.	17 **parvicornis** *Lw.*
	Antennæ of tolerable size.	18 **opacus** *Lw.*
19	Venter and posterior margin of the pleuræ not yellow.	20
	Venter and posterior margin of the pleuræ yellow.	21
20	Thorax brightly shining, front white.	19 **politus** *Lw.*
	Thorax rather dull, front gray.	20 **debilis** *Lw.*
21	Hypopygium remarkably stout and large.	21 **crassicauda** *Lw.*
	Hypopygium of the usual size and thickness.	22
22	Antennæ very small.	22 **minutus** *Lw.*
	Antennæ of middle size.	23 **ventralis** *Lw.*

Systematic arrangement of the Species.

I. Coloring of the body non-metallic.

1. **flavus** *Lw.*

II. Coloring of the body metallic.

A. Third joint of the antennæ with an elongated point.

2. **subulatus** *Lw.*

B. Third joint of the antennæ without an elongated point.

a. Prevailing color of the feet black.

3. **scotias** *Lw.*
4. **barbatulus** *Lw.*
5. **tristis**, n. sp.

b. Prevailing color of the feet yellow.

6. **exilis** *Lw.*
7. **spectabilis** *Lw.*
8. **albiceps** *Lw.*
9. **subdilatatus** *Lw.*
10. **lævigatus** *Lw.*
11. **frequens** *Lw.*
12. **lunifer** *Lw.*
13. **fimbriatus** *Lw.*
14. **despicatus** *Lw.*
15. **difficilis** *Lw.*
16. **nigribarbus** *Lw.*
17. **parvicornis** *Lw.*
18. **opacus** *Lw.*
19. **politus** *Lw.*
20. **debilis** *Lw.*
21. **crassicauda** *Lw.*
22. **minutus** *Lw.*
23. **ventralis** *Lw.*

DESCRIPTION OF THE SPECIES.

I. COLORING OF THE BODY NON-METALLIC.

1. G. flavus LOEW. ♂ and ♀.—Flavus, abdominis segmentis intermediis plerumqne virescentibus.

Yellow; the middle segments of the abdomen usually greenish. Long. corp. 0.10—0.11. Long. al. 0.12—0.13.

SYN. *Gymnopternus flavus* LOEW, Neue Beitr. VIII, 28, 1.

Pale yellowish. Face whitish. Antennæ dark yellow, the third joint with a very pointed brownish or blackish tip and with rather distinct hairs, which are visibly shorter in the female. Arista black with an almost imperceptible pubescence. Front and occiput of a greenish color, but thickly dusted with yellow so as to appear dull and altogether light greenish-gray. Cilia of the inferior orbit white-yellowish. Thorax entirely yellow, not unfrequently with a slight trace of a greenish lustre, its bristles black, the small hairs pale, scutellum provided with two black bristles, otherwise glabrous. Abdomen with yellow hair, the stout hairs on the incisures somewhat darker, but not black; the middle and sometimes also the posterior segments of the abdomen show a greenish lustre; hypopygium yellow, lamellæ small, yellowish-white, without a dark margin, thinly ciliated with short yellowish hairs. Feet white-yellowish, their scanty bristles black; the smaller hairs yellowish. Cilia of the tegulæ yellow. Wings towards the anterior margin yellowish, otherwise more yellow-grayish.

Hab. Pennsylvania. (Osten-Sacken.)

II. COLORING OF THE BODY METALLIC.

A. *Third joint of the antennæ with an elongated point.*

2. G. subulatus LOEW. ♂.—Viridis, thorace subopaco, antennarum articulo tertio acutissimo, hirto, setâ subapicali instructo.

Green; thorax rather dull, the third joint of the antennæ very pointed, roughly hairy, with a subapical arista. Long. corp. 0.13—0.14. Long. al. 0.16.

Syn. *Gymnopternus subulatus* Loew, Neue Beitr. VIII, 29, 2.

Green, made dull by pale gray-brownish dust, especially upon the thorax. Face gray-whitish. The first joint of the antennæ black-brown, the second red, the third dark brown, at the root red, unusually long and sharply pointed, and covered with much longer hairs than is the case with the other species of the same genus. The black arista has a hardly perceptible pubescence, is scarcely somewhat longer than the third joint of the antennæ, and is inserted about its last third, so as to be nearer to the tip than is the case with the other species. Front, in consequence of a thick covering of dust, dull greenish-gray. The color of the cilia of the inferior orbit cannot easily be recognized, however only the lowest of them may possibly be of a pale color. Thorax and scutellum, on account of a thick covering of dust, pretty dull gray-green; the scutellum bears, as usual, the two black bristles, and seems otherwise to be entirely without hairs. Abdomen more green, and brighter than the thorax. The black hypopygium rather stout, with small yellowish lamellæ, which are ciliated on the margin with short black hairs and have no dark edge. Interior appendages simple, provided with one hair upon the upper side and with two hairs upon the point, before it is bent down. Coxæ and feet pale yellowish, fore coxæ with black hair. Cilia of the tegulæ black. Wings somewhat yellow-grayish, large and broad, especially towards the tip; the anal angle rounded off.

Hab. Trenton Falls, N. Y. (Osten Sacken.)

B. Third joint of the antennæ without elongated point.

A. *Prevailing color of the feet black.*

3. G. scotias Loew. ♂ and ♀.—Atro-virens, pedibus nigris, trochanteribus, genibus, tibiis, tarsorumque anteriorum basi flavicantibus, tertio antennarum articulo hirto, facie non pilosâ.

Black-green, feet black; trochanters, knees, tibiæ, root of the four anterior tarsi yellowish, the third joint of the antennæ roughly hairy, face not hairy. Long. corp. 0.13—0.14. Long. al. 0.14—0.15.

Syn. *Gymnopternus scotias* Loew, Neue Beitr. VIII, 29, 3.

Dark black-green, or almost metallic black. Face and front gray. Antennæ entirely black, the third joint elongated, ovate, not very broad, pointed at the end, with longer hairs than in most of the other species; the arista is inserted in its middle and has a rather indistinct pubescence. Cilia of the inferior orbit black. Scutellum with the usual two bristles; otherwise I cannot perceive any hairs upon its surface. Feet black. Trochanter with the extreme tip of the first joint of the coxa, tip of the femora, the tibiæ, and the roots of the four anterior tarsi, yellowish, but, on account of the density of the short black hairs, of pretty dark appearance. The hind side of the hind tibiæ is clothed towards its end with dense black hairs, so that it appears pretty black; the root of the hind tarsi is brown. Cilia of the pale yellowish tegulæ black. Halteres yellow-whitish. Wings gray-blackish, a little darker towards the anterior margin. The small lamellæ of the hypopygium are black.

Hab. English River. (Kennicott.)

4. **G. barbatulus** Loew. ♂ and ♀.—Atro-virens, pedibus nigris, trochanteribus, genibus, tibiis (excepto tamen posticarum apice) tarsorumque anteriorum basi flavicantibus, alis ex cinereo-hyalinis, inferâ faciei parte nigro-pilosâ.

Black-green; feet black, trochanters, knees, tibiæ (with the exception of the tip of the hind ones) and the root of the four anterior tarsi yellowish, wings grayish-hyaline, the lower part of the face with black hair. Long. corp. 0.12. Long. al. 0.12—0.13.

Syn. *Gymnopternus barbatulus* Loew, Neue Beitr. VIII, 29, 4.

Dark black-green, face gray-white, the inferior part of it somewhat swollen transversely, and with small sparse black hairs. Antennæ entirely black, their third joint broad, pretty rounded, and only with short, scarcely perceptible hairs. Pubescence of the arista extremely short, hardly perceptible. Front dark metallic green; the dust on its surface can only be perceived in an oblique direction. Cilia of the inferior orbit black. Besides the usual two bristles upon the scutellum, there are a few short, extremely slender, and therefore scarcely perceptible hairs. Feet black; the tip of the first joint of the coxæ, the trochanter, the tip of the femora, the tibiæ, and the root of the four anterior tarsi yellowish, the tip of the hind tibiæ to a moderate extent black. The cilia of the yellow tegulæ black. Halteres white-yellowish. The wings dusky with gray; the small lamellæ of the hypopygium brown.

Hab. Middle States. (Osten-Sacken.)

5. G. tristis, n. sp. ♂ and ♀.—Atro-virens, pedibus nigris, genibus, tibiis tarsorumque anteriorum basi testaceis, tertio antennarum articulo nudo, alis nigricantibus.

Black-green; feet black, knees, tibiæ and the root of the four anterior tarsi brownish-yellow, the third joint of the antennæ bare; wings blackish. Long. corp. 0.13—0.15. Long. al. 0.14—0.15.

Resembles much not only the *G. scotias*, but also *G. barbatulus.* Black-green, sometimes more metallic-black. Face of the ♂ black, of the ♀ black-gray, the latter much broader than in the ♂; upon its lower part, in the ♀, several hardly perceptible black hairs, which I did not observe upon the face of the ♂. Antennæ entirely black; the third joint broad, rather short, however somewhat longer in the ♂ than in the ♀, bare, that is to say, only with the usual microscopic pubescence, which is very difficult to observe. The rather strong arista is also covered with this almost imperceptible pubescence. Front dark metallic green; the rather whitish dust upon it becomes visible, when viewed in an oblique direction. Cilia of the inferior orbit black. The scutellum has besides the usual two bristles, also some shorter hair. Feet black, tip of the coxæ and trochanters in well matured specimens hardly much paler; tip of the femora, the tibiæ, and the root of the four anterior tarsi brownish-yellow; tip of the hind tibiæ brownish, the root of the hind tarsi sometimes brown. In less matured specimens the lower side of the femora is mostly pitch-brown. Cilia of the tegulæ black. The small brownish-black lamellæ of the hypopygium are crescent-shaped, and adhere with the concave side to the hypopygium, so that their true form cannot be easily perceived; on their convex side they are fringed with small blackish hairs, but not jagged. The wings are comparatively long, distinctly tinged with smoky black; the third and fourth longitudinal veins show towards the end an indication of a slight convergency; the hind transverse vein is comparatively distant from the margin of the wing.

Hab. Sitka. (Wahlberg.)

Observation 1.—*Gymn. tristis* is distinguished from *Gymn.*

barbatulus by its larger size, its longer and darker wings, and by a darker and less hairy face; the male further differs by the greater length of the lamellæ of the hypopygium. From *G. scotias* it differs by the third joint of the antennæ, which has not the long hairs, so apparent in *G. scotias.*

Observation 2.—A male from the same locality shows a considerably stronger convergency of the third and fourth longitudinal veins, coincides, however, so much in all the other characters with the rest of the males, that I cannot consider it for more than a variety, although a very striking one, of *G. tristis.*

B. *Prevailing color of the feet yellow.*

6. G. exilis Loew. ♂.—Viridis, pedibus flavis, coxarum intermediarum basi femorumque posticorum apice nigricantibus, tarsis fuscis.

Green, with yellow feet, the basis of the middle coxæ and the tip of the hind femora blackish, tarsi brown. Long. corp. 0.10. Long. al. 0.11.

Syn. *Gymnopternus exilis* Loew, Neue Beitr. VIII, 30, 5.

Green or bluish-green, not very bright. Face and front light grayish. Antennæ brownish-black; the second joint and the root of the third reddish-brown; the third joint comparatively rather large, not very broad in proportion to its size, not rounded at the tip, distinctly hairy; the pubescence of the not very long arista is difficult to perceive. Cilia of the inferior orbit black. Thorax, in consequence of a light cover of dust, somewhat dull, and grayish-green. In one specimen only, I perceive upon the scutellum, besides the usual bristles, a few small hairs, which are rather indistinct. Feet pale yellowish. Middle coxæ upon the outside distinctly blackened beyond their middle. Hind coxæ darkened only at the basis. Tip of the hind femora distinctly blackened upon the upper side. Fore and middle tarsi infuscated from the tip of the first joint; hind tarsi black-brown to the same extent. The row of short small bristles which is usually found upon the upper side of the fore tibiæ in the species of *Gymnopternus* is less developed here than in most of the other species. Cilia of the tegulæ black. Wings gray. The small lamellæ of the hypopygium yellow, fringed with rather apparent, small black bristles; their form is rather kidney-shaped, still they have in the lower corner a very small, somewhat protruding black flap; the interior appendages of the hypopygium bear a few hairs before the tip.

Hab. Pennsylvania. (Osten-Sacken.)

7. **G. spectabilis** Loew. ♀.—Thorace violaceo, antennis nigris, coxis nigricantibus, pedibus flavis.

Thorax violet, antennæ black, coxæ blackish, feet yellow. Long. corp. 0.17. Long. al. 0.17.

Syn. *Gymnopternus spectabilis* Loew, Neue Beitr. VIII, 30, 6.

Is among the largest North American species of this genus known to me. Face and front with an almost silvery-white dust, though upon the latter the dust is less thick. Antennæ altogether black; third joint short; the arista is somewhat stout at the basis and has a plainly perceptible pubescence. Cilia of the inferior orbit black. The upper side of the thorax metallic violet, the scutellum likewise; the latter has some short hairs in the middle. Abdomen blackish metallic green, bright. All the coxæ up to the extreme tip blackish. Feet yellow, tarsi from the tip of the first joint infuscated; the usual row of bristles upon the upper side of the fore tibiæ complete and distinct, though the single bristles are comparatively not long. Cilia of the tegulæ black. Wings tinged with gray-brown, towards the anterior margin a little browner; the third and fourth longitudinal veins perfectly parallel.

Hab. New York. (Osten-Sacken.)

Observation.—Had Mr. Wiedemann not stated the size of *Dolichopus obscurus* Say to be 1½ line, I would have most certainly believed that my *G. spectabilis* is the *D. obscurus* of Mr. Say. Nevertheless the statements of MM. Wiedemann and Say about *D. obscurus* do not apply so closely to *G. spectabilis* as to waive such an important difference and to consider both species as one and the same.

8. **G. albiceps** Loew. ♀.—Thorace violaceo, antennis rufis in apice fuscis, coxis pedibusque flavis.

Thorax violet, the red antennæ brown at the tip; coxæ and feet yellow. Long. corp. 0.17. Long. al. 0.17.

Syn. *Gymnopternus albiceps* Loew, Neue Beitr. VIII, 30, 7.

Face very broad, more so than that of *G. spectabilis*, snow-white. Antennæ dusky red; third joint small, rounded, dark brown upon the apical half. Arista with a comparatively long and striking pubescence. Front covered with a snow-white dust. Cilia of the inferior orbit black. Thorax and scutellum metallic violet; no hairs are perceptible upon the surface of the latter. Abdomen metallic dark green. Coxæ and feet yellowish; middle coxæ upon the outside with a grayish streak. Tarsi from the tip of the first joint gradually blackened. The usual row of bristles on the upper side of the fore tibiæ is extant and complete; the single bristles, however, comparatively short. Cilia of the tegulæ black. Wings tinged with grayish-brown, a little more brown towards the anterior margin; the third and fourth longitudinal veins very slightly converging towards the end.

Hab. Middle States. (Osten-Sacken.)

9. G. subdilatatus Loew. ♂.—Viridis, antennis nigris, coxis nigricantibus, anticarum apice pedibusque flavis, maris tarsorum anticorum articulo ultimo depresso, subdilatato.

Green; antennæ black; coxæ blackish; tip of the fore coxæ and the feet yellow; the last joint of the fore tarsi of the ♂ flattened and a little enlarged. Long. corp. 0.13. Long. al. 0.13.

Syn. *Gymnopternus subdilatatus* Loew. Neue Beitr. VIII, 31, 8.

Metallic green, rather bright. Face covered with a whitish dust. Antennæ entirely black; third joint short, rather rounded; arista with a scarcely perceptible, extremely short pubescence. The cilia of the inferior orbit seem to be black; upon the scutellum, besides the usual two bristles, a few small hardly perceptible hairs are inserted. The rather large lamellæ of the hypopygium are more kidney-shaped than crescent-shaped, upon their lower side brownish-yellow, upon the upper part brownish-black, closely fringed with black bristle-like hairs; the interior appendages are simple. The fore coxæ blackened as far as the middle, middle and hind coxæ almost as far as the tip. Feet yellowish, a little more slender than in the allied species. The hairs on the hind femora are also blackish upon their under side, and more distinct than in the related species. The usual row of bristles on the upper side of the fore tibiæ is extant, but the single bristles are very short. Fore tarsi from the tip of the first joint strongly infuscated, towards the tip black, very slender, but hardly longer than the tibiæ. Their first joint is as long as the two following taken together; the last joint is flattened and a little enlarged, the pulvilli also larger than usual. The middle and the hind tarsi strongly infuscated from the tip of the first joint, towards the tip black. Cilia of the tegulæ black. Wings tinged with blackish-gray.

Hab. Middle States. (Osten-Sacken.)

Observation.—A single female specimen agrees with the just described male of *G. subdilatatus* in the color of the coxæ, and cannot therefore belong to any of the other species known to me; I am prevented, however, from taking it for the ♀ of *G. subdilatatus* on account of the more clumsy shape of the feet.

10. G. lævigatus Loew. ♂.—Viridis, thorace subcærulescente, nitidissimo, antennis parvis nigris, articulo secundo et tertii basi obscure rufis, coxis anticis totis pedibusque pallide flavis, tarsis posticis inde ab articuli primi apice nigris, lamellis hypopygii pallide flavis, appendicibus interioribus simplicibus.

Green, with a somewhat violet, very bright thorax; the small antennæ black, the second joint and the root of the third dusky red; the whole fore coxæ and the feet yellow, the hind tarsi from the tip of the first joint black; the lamellæ of the hypopygium pale-yellow; the interior appendages simple. Long. corp. 0.12. Long. al. 0.12.

Syn. *Gymnopternus lævigatus* Loew, Neue Beitr. VIII, 31, 9.

Green, bright. Face and front covered with whitish dust. Antennæ small, black; the second joint and the root of the third dusky red. Arista with a short but distinct pubescence. The cilia of the inferior orbit seem to be black. Upper side of the thorax bluish-green and very bright. Upon the surface of the scutellum, besides the usual bristles, there are a few quite imperceptible little hairs. The small lamellæ of the hypopygium are light-yellowish, with a scarcely perceptible blackish border and crescent shaped. Coxæ and feet white-yellowish; the middle coxæ on the outside almost as far as the tip, and the hind coxæ at the root, blackened. The hairs on the feet are somewhat coarse, and the usual row of bristles on the upper side of the fore tibiæ consists of comparatively long and rather strong bristles. Hind tarsi black from the tip of the first joint; fore and middle tarsi infuscated from the same joint. Cilia of the tegulæ black; wings tinged with blackish-gray; the end of the third and fourth longitudinal veins parallel.

Hab. Middle States.

Observation.—If the coloring of the tarsi should not prove constant, the distinction from *G. parvicornis* would be rather difficult. It would then be necessary to observe that the feet of the present species are decidedly somewhat more clumsy and covered with coarser hair, and that the row of bristles on the upper side of the fore tibiæ consists of somewhat longer bristles. The conformity of both species in the structure of the antennæ and of the appendages of the hypopygium is striking. *G. lævigatus* cannot be confounded with any other species.

11. G. frequens Loew. ♂ and ♀.—Obscure viridis vel aeneo-viridis, antennis nigris, facie et fronte ex albo cinereis, pedibus flavis, lamellis hypopygii nigris.

Dark-green or bronze-green; antennæ black; face and front whitish-gray; feet yellow; lamellæ of the hypopygium black. Long. corp. 0.12. Long. al. 0.12—0.15.

Syn. *Gymnopternus frequens* Loew, Neue Beitr. VIII, 32, 10.

Blackish-green, recently developed specimens rather bluish-green, more aged specimens darker bronze-green. Face and front covered with a whitish-gray dust. Antennæ black, the third joint quite small; arista with a short but distinct pubescence. Cilia of the inferior orbit black; upon the surface of the scutellum there are, besides the two bristles, several short hairs. Coxæ and feet yellow; middle coxæ almost on their whole outside blackish, or at least brownish; the fore coxæ show only at the extreme basis traces of a brownish tinge, such as is often also perceived on the hind coxæ. The usual row of bristles on the upper side of the fore tibiæ is distinct and dense. The hind tarsi become, from the tip of the first joint, more and more brown, their tip is black-brown. The fore and middle tarsi are infuscated in a similar manner, but less dark. Cilia of the tegulæ black. Wings tinged with blackish-gray, the third and fourth longitudinal veins with a slight trace of convergency. The lamellæ of the hypopygium black, quite rounded at the end, fringed with black hairs; the interior appendages not bristly.

Hab. Middle States. (Osten-Sacken.)

Observation.—*G. frequens* is, among the kindred species, the only one whose males have black lamellæ, and thus is easy to recognize. Female specimens occur which have the dust upon face and front much whiter; in other respects they are like the other females. Whether they are, as I suppose, merely a variety of *G. frequens*, or whether they belong to another closely related species can only be determined by further observations. The changes in size of the present species are not so striking as would appear from the measurements given above, because the larger specimens are always females, which, in this species, more than usual exceed the males in size. It will be quite difficult to distinguish the female of *G. lunifer* from that of *G. frequens.*

12. G. lunifer Loew. ♂.—Obscure viridis vel aeneo-viridis, antennis nigris, facie et fronte cinereis, pedibus flavis, lamellis hypopygii obscure luteis.

Dark-green or bronze-green, antennæ black, face and front gray; feet yellow; lamellæ of the hypopygium dark-yellow. Long. corp. 0.13—0.14. Long. al. 0.13—0.14.

Syn. *Gymnopternus lunifer* Loew, Neue Beitr. VIII, 32, 11.

Dark-green, rather bright, face and front with whitish-gray dust. Antennæ rather short, entirely black, the third joint small, not rounded at the end. Arista with a short but distinct pubescence. Cilia of the inferior orbit black. Upon the scutellum, besides the bristles, a few not easily perceptible hairs; the lamellæ of the hypopygium a little larger than those of the kindred species, crescent-shaped, but rounded on the upper end, so as to become somewhat kidney-shaped, and thus to approach the shape of the lamellæ of *G. subdilatatus.* They are of a dingy brownish-yellow color, and upon the upper margin somewhat blackish. Their black fringe is not so strong as that of *G. subdilatatus.* Fore coxæ dark yellow, a little brownish at the extreme basis; the middle and hind coxæ black almost up to the extreme tip. Feet somewhat dark yellow, rather slender, hind femora somewhat infuscated on the upper side towards the tip. The usual row of bristles on the upper side of the fore tibiæ is complete. Tarsi brownish towards the tip. Cilia of the tegulæ black; wings tinged with brownish-gray.

Hab. New York. (Osten-Sacken.)

13. G. fimbriatus Loew. ♂.—Viridis, pedibus et coxis flavis, coxis intermediis, apice excepto, nigricantibus; appendicibus hypopygii interioribus elongatis et penicillatis.

Green, feet and coxæ yellow, the middle coxæ however, with the exception of the tip, blackish; the interior appendages of the hypopygium elongated, hairy, penicillate. Long. corp. 0.10. Long. al. 0.11.

SYN. *Gymnopternus fimbriatus* LOEW, Neue Beitr. VIII, 32, 12.

Rather light-green, bright. Face and front covered with a white-grayish dust. Antennæ entirely black, short, the third joint rounded. Arista with an extremely short and very imperceptible pubescence. Cilia of the inferior orbit black. The upper side of the thorax moderately bright. Upon the scutellum only traces of very imperceptible hairs. The lamellæ of the hypopygium whitish-yellow, crescent-shaped, ciliated with stiff black hairs; the interior appendages somewhat elongated, with a brush-like tuft of long hairs at the end. Coxæ and feet yellow, more slender than those of the next following species; most of the outside of the middle coxæ blackish; the fore and hind coxæ hardly somewhat blackened at their extreme basis. Tarsi somewhat infuscated towards the tip, especially the hind ones. The usual row of bristles on the upper side of the fore tibiæ is extant; the single bristles of middle size. Cilia of the tegulæ black. Wings tinged with gray.

Hab. Maryland. (Osten-Sacken.)

14. G. despicatus LOEW. ♂.—Viridis, antennis nigris, facie et fronte albido-pollinosis, pedibus flavis, tibiis posticis prope apicem supra paulo longius pilosis, quam in speciebus ad quas accedit; alarum venis longitudinalibus tertiâ et quartâ subconvergentibus; lamellis hypopygii pallide flavescentibus.

Green, antennæ black, face and front covered with a whitish dust; feet yellow; hind tibiæ on the upper side towards the end with longer hairs than in the allied species; the third and fourth longitudinal veins of the wings show a slight convergency; lamellæ of the hypopygium pale yellow. Long. corp. 0.12. Long. al. 0.12.

SYN. *Gymnopternus despicatus* LOEW, Neue Beitr. VIII, 33, 13.

Green, rather bright. Face and front covered with whitish dust. Antennæ entirely black and only of middle length; the third joint rather rounded at the tip. Arista with a very short, hardly perceptible pubescence. Cilia of the inferior orbit black. Upon the scutellum of the described specimen there are, besides the two bristles, only a few small, pale hairs on the margin. Lamellæ of the hypopygium pale-yellowish, crescent-shaped, fringed on the margin with small black hairs. The interior appendages plain. Coxæ and feet yellowish. Middle coxæ on the outside as far as somewhat beyond the middle, blackish. The usual row of bristles on the upper side of the fore tibiæ is complete, and consists of comparatively large bristles. The usual short hairs upon the last third of the upper side of the hind tibiæ are not only a little denser, but also visibly longer, than in the allied species. Tarsi towards the end a little blackish. Cilia of the tegulæ black. Wings tinged with gray. Third and fourth longitudinal veins towards the end a little more approximated, and therefore a little more converging, than in the allied species.

Hab. Middle States. (Osten-Sacken.)

15. G. difficilis Loew. ♂.—Viridis, antennis nigris, facie et fronte albido-pollinosis; pedibus flavis; tarsis apicem versus dilute infuscatis, alarum venis longitudinalibus tertiâ et quartâ perfecte parallelis; lamellis hypopygii pallide flavescentibus.

Green, antennæ black, face and front covered with a whitish dust, feet yellow, tarsi brownish only towards the tip, third and fourth longitudinal veins perfectly parallel; lamellæ of the hypopygium pale-yellowish. Long. corp. 0.12. Long. al. 0.12.

Syn. *Gymnopternus difficilis* Loew, Neue Beitr. VIII, 33, 14.

Is so extremely like the preceding species, that the statement of the differences will be sufficient for its recognition. They consist in the following: the usual row of bristles on the upper side of the fore tibiæ consists of much smaller bristles. The hairs on the upper side of the hind tibiæ are, towards their end, less dense and long; the third and fourth longitudinal veins are perfectly parallel towards their end, and all the longitudinal veins have a paler coloring.

Hab. New York.

16. G. nigribarbus Loew. ♀.—Nigro-æneus, thorace cærulescente, subopaco, inferâ faciei parte pilis nigris barbatâ.

Bronze-black, thorax rather blue and somewhat dull, the lower part of the face bearded with black hairs. Long. corp. 0.09—0.10. Long. al. 0.12.

Syn. *Gymnopternus nigribarbus* Loew, Neue Beitr. VIII, 33, 15.

Bronze-blackish, thorax rather blue, and rather dull on account of a dense, brown-gray dust. Face covered with a whitish-gray dust, rather broad, upon its inferior portion convex and beset with a short but distinct and rather striking pubescence. Antennæ small, black-brown, second joint and the root of the third red; the third joint rounded at the end and beset with very distinct but not long hairs. Arista with a comparatively long, very distinct pubescence. The front seems in most directions light brownish-gray; in others nearly whitish. Cilia of the inferior orbit black. Upper side of the thorax rather blue and dull on account of a gray-brownish dust. Scutellum apparently glabrous upon its upper surface. The color of the abdomen varies between bronze-black and bronze-green. Fore coxæ yellow-brownish at the base; middle coxæ almost up to the tip, hind coxæ about as far as the middle, blackish. Feet yellowish. Tarsi moderately infuscated towards the tip. The usual row of bristles on the upper side of the fore tibiæ, consists of comparatively short bristles. Cilia of the tegulæ black. Wings with a rather strong blackish-gray tinge. The third and fourth longitudinal veins parallel towards the end.

Hab. Pennsylvania.

17. G. parvicornis Loew. ♂.—Viridis, thorace cærulescente, nitidissimo, antennis parvis, nigris, articulo secundo et articuli tertii basi rufis; coxis anticis totis, pedibusque pallide flavis, tarsis apicem versus infuscatis, lamellis hypopygii pallide flavicantibus, appendicibus interioribus simplicibus.

Green, the bluish-green thorax very bright; the small antennæ black, the second joint and the root of the third red, the whole fore coxæ and the feet pale yellowish; tarsi towards the tip brownish; the lamellæ of the hypopygium pale yellowish; the interior appendages plain. Long. corp. 0.12. Long. al. 0.12.

Syn. *Gymnopternus parvicornis* Loew, Neue Beitr. VIII, 34, 16.

Green, bright, face and front with a white dust. Antennæ small, black; second joint and the root of the third red; third joint remarkably small and not rounded at the tip. Arista with a short but distinct pubescence. Cilia of the inferior orbit black. Upper side of the thorax bluish-green and very bright. Upon the surface of the scutellum there seem to be, besides the usual bristles, a few small hairs. The small lamellæ of the hypopygium are whitish-yellow with a scarcely perceptible black margin, crescent-shaped. Coxæ and feet whitish-yellow; the middle coxæ on the outside almost up to the tip, and the hind coxæ at the root, blackish. The hairs on the feet are scarcely so rough as usual, and the row of bristles on the upper side of the fore tibiæ consists of rather short bristles. Tarsi but slightly infuscated towards their tip. Cilia of the tegulæ black. Wings with a blackish-gray tinge. Third and fourth longitudinal veins, towards the end, parallel.

Hab. Middle States. (Osten-Sacken.)

Observation.—The striking resemblance of this species to *G. lævigatus* has already been noticed above. If the small bristles on the upper side of the fore tibiæ were not visibly shorter in this species, I would suppose it to be only a variety of *G. lævigatus* with much paler tarsi.

18. G. opacus Loew. ♂.—Viridis, modice nitens, facie et fronte polline ex albo-cinereo vestitis, antennis majusculis, fusco-nigris, articulo secundo et articuli tertii basi rufis; pedibus cum coxis flavis; coxis intermediis, posticarumque basi nigricantibus; alis ex flavo dilutissime cinerascentibus, lamellis hypopygii parvis, pallide flavescentibus.

Green, only moderately shining; face and front with a whitish-gray dust; antennæ rather large, brownish-black; second joint and root of the third red; coxæ and feet yellow, middle coxæ and the base of the hind coxæ blackish; wings altogether pale yellowish-gray; the small lamellæ of the hypopygium pale yellowish. Long. corp. 0.12—0.13. Long. al. 0.13.

Syn. *Gymnopternus opacus* Loew, Neue Beitr. VIII, 34, 17.

Green, only moderately shining; the dust upon the face seems to be whitish-gray, but in an oblique light it has a more pure white appearance. Antennæ brownish-black; second joint and root of the third red; third joint of a considerable size, rather broad, forming a sharp angle at the tip, beset with not very long but very distinct hairs. Arista with a rather short but very distinct pubescence. Front with a yellowish-gray dust. Cilia of the inferior orbit black. Thorax dull on account of a yellowish-gray dust. I cannot discover any hairs upon the scutellum. Lamellæ of the hypopygium small, pale-yellow, short and sparsely fringed. Pleuræ without yellow coloring on the posterior margin. Coxæ and feet pale-yellowish. Middle coxæ on the outside almost up to the tip and hind coxæ at the basis, of a dark color. Tarsi hardly infuscated towards the tip. Cilia of the tegulæ black. Wings with a slight gray-yellowish tinge. The third and fourth longitudinal veins towards their end almost entirely parallel.

Hab. New York. (Osten-Sacken.)

Observation.—A single ♀ which I possess I believe to be that of the present species. The circumstance that the single bristles of the row on the upper side of the fore tibiæ are somewhat stronger, the third joint of the antennæ much shorter and the arista more distinctly hairy than those of the above described ♂, cannot justify any doubts, as the females of nearly all the species differ in this way from the males. The only objection which might be raised against their belonging together, is the more whitish color of the dust upon face and front.

19. G. politus Loew. ♀.—Viridis, nitens, faciei albæ parte inferâ subtiliter pilosâ, fronte albo-pollinosâ, antennis ex fusco rufis, apicem versus fuscis, coxis pedibusque pallide flavis, alis majusculis ex fusco cinereis, appendicibus analibus duabus styliformibus.

Green, bright, the lower part of the white face with delicate hairs, front with a white dust, the brownish-red antennæ brown at the tip; coxæ and feet pale-yellowish; wings somewhat large, brown-grayish; at the end of the abdomen two styloid appendages. Long. corp. 0.14—0.15. Long. al. 0.14—0.15.

Syn. *Gymnopternus politus* Loew, Neue Beitr. VIII, 34, 18.

Green, very bright; the moderately broad face and front covered with white dust; the lowest part of the face beset with minute pale hairs and a few blackish ones. Antennæ, at least for a female, of middle size, dusky brownish-red; third joint with short but distinct hairs, towards the end blackish-brown and the tip sharply angular. Cilia of the inferior orbit black. Thorax only a little dusty. Upon the scutellum I cannot perceive any hairs at all. The anal appendages distinguish themselves from those of the related species by consisting of two short black styles. The posterior margin of the pleuræ is not yellow. Coxæ and feet pale-yellowish. Tarsi but little infuscated towards their tip. The usual row of bristles on the upper side of the fore tibiæ rather prominent. Cilia of the tegulæ black. Wings rather broad and pretty strongly tinged with brownish-gray. The third and fourth longitudinal veins towards their ends with a slight indication of convergency.

Hab. New York. (Osten-Sacken.)

Observation.—It is remarkable that the circle of short thorns on the tip of the abdomen of the female, which belongs to allied species, is wanting here. This species, however, cannot be located in any other genus; on the contrary, it coincides most perfectly in all other respects with the species of *Gymnopternus.*

20. G. debilis Loew. ♂ and ♀.—Viridis, modice nitens, facie et fronte cinereo-pollinosis, antennis rufis apicem versus nigris, coxis pedibusque pallide flavis, alis ex flavo cinereis, lamellis hypopygii parvis, pallide flavescentibus.

Green, moderately shining; face and front grayish-dusty, the red antennæ black at the tip; coxæ and feet pale-yellow; wings yellowish-gray; the small lamellæ of the hypopygium pale-yellowish. Long. corp. 0.12. Long. al. 0.12.

Syn. *Gymnopternus debilis* Loew, Neue Beitr. VIII, 35, 19.

Green, only moderately shining; face covered with white-grayish, front with yellow-grayish dust. Antennæ red, of middle size; third joint quite distinctly hairy, at the tip black-brown and provided with a sharp angle; arista with a short, but distinct pubescence. As far as I can perceive, the ciliæ of the inferior orbit are black. The upper side of the thorax, on account of some yellow-grayish dust, rather dull. The scutellum seems to be bare. Venter not yellow. Pleuræ wholly gray, without yellow posterior margin. Coxæ and feet pale yellowish. Tarsi towards their end a little infuscated. The usual row of bristles on the upper side of the fore tibiæ rather prominent. Cilia of the tegulæ black. Wings only with a slight yellow-grayish tinge. Third and fourth longitudinal veins towards their end almost entirely parallel. The small lamellæ of the hypopygium are pale-yellowish and fringed with little black hairs.

Hab. Pennsylvania. (Osten-Sacken.)

Observation. — *G. debilis* can easily be distinguished from *G. opacus* by its smaller size and smaller antennæ; likewise from *G. crassicauda* by not having a yellow venter and the posterior margin of the pleuræ not being yellow. From *G. politus* it differs by a more light-green color, less brightness, smaller size, &c. &c.

21. G. crassicauda Loew. ♂ and ♀.—Viridis, modice nitens, antennis rufis apicem versus fuscis, pleurarum margine postico, ventre, coxis pedibusque pallide flavis, hypopygio maris valde incrassato.

Green, moderately shining; the red antennæ brown towards the tip; the posterior margin of the pleuræ, the venter, the coxæ and the feet pale-yellowish. The hypopygium of the ♂ very much thickened. Long. corp. 0.15. Long. al. 0.14—0.15.

Syn. *Gymnopternus crassicauda* Loew, Neue Beitr. VIII, 35, 20.

Green, moderately shining; face and front with some whitish dust; in well preserved ♀ a delicate and pale-colored pubescence can be seen upon the lower part of the face. Antennæ red, of very moderate size, the third joint at the end rounded and infuscated. Arista of the ♂ with a short but distinct, that of the ♀ with a comparatively long and very striking pubescence. Cilia of the inferior orbit black. Thorax somewhat dull from grayish dust. The hairs upon the scutellum delicate and rather difficult to perceive. Pleuræ gray, their whole posterior margin (epimera metathoracica) yellowish. Venter yellow; upon the anterior segments of the abdomen this color extends somewhat upon the upper side; in well preserved specimens, however, it is concealed by a whitish dust; in the ♀ this yellow coloring sometimes extends further, so that there is upon the first segment a complete, and upon the second an interrupted yellow band. Coxæ and feet pale-yellowish. Tarsi towards the end scarcely a little infuscated. Cilia of the tegulæ black. Wings with a slight yellow-grayish tinge. The third and fourth longitudinal veins towards the end almost entirely parallel. The hypopygium of the ♂ uncommonly thickened. The very small crescent-shaped lamellæ have a yellowish coloring and a fringe of short, delicate and sparse hairs.

Hab. New York. (Osten-Sacken.)

22. G. minutus Loew. ♂.—Viridis, antennis parvis rufis, pleurarum margine postico, ventre, coxis pedibusque pallide flavicantibus, coxis anticis denudatis, hypopygio non incrassato.

Green, the small antennæ red, the posterior margin of the pleuræ, the venter, the coxæ and the feet pale-yellowish; fore coxæ bare; the hypopygium not thickened. Long. corp. 0.10. Long. al. 0.11.

Syn. *Gymnopternus minutus* Loew, Neue Beitr. VIII, 35, 21.

Green, quite bright, face with a dense, front with a thin whitish dust. Antennæ brownish-red, small, the third joint at the end dark-brown. Arista with a short but distinct pubescence. Cilia of the inferior orbit black. Thorax a little dull from a white-grayish dust. Scutellum with a few short hairs. Posterior margin of the pleuræ yellow. Venter yellow. On the anterior segments of the abdomen the lateral margins are also colored with yellow. Hypopygium of the usual shape. The small, delicate lamellæ yellowish, sparsely ciliated. Coxæ and feet white-yellowish. The fore coxæ have upon their anterior side no black, but throughout only extremely delicate small whitish hairs, so as to appear glabrous, which constitutes a very striking character of this species. The tarsi towards their end are scarcely somewhat infuscated.

Hab. Middle States. (Osten-Sacken.)

23. G. ventralis Loew. ♂.—Viridis, modice nitens, antennarum articulo tertio latiusculo, rotundato, pleurarum margine postico, ventre, coxis, pedibusque pallide flavis, hypopygio maris non incrassato.

Green, moderately shining, third joint of the antennæ rather broad, rounded; posterior margin of the pleuræ, venter, coxæ and feet pale-yellowish; hypopygium not thickened. Long. corp. 0.13—0.14. Long. al. 0.15.

Syn. *Gymnopternus ventralis* Loew, Neue Beitr. VIII, 36, 22.

Green, not very bright. Face with a whitish, front with a pale yellow-grayish dust. Antennæ brownish-red, of moderate size; the third joint, which is rounded, is rather broad; arista with a rather short but distinct pubescence. Cilia of the inferior orbit black. Thorax quite dull on account of a yellow-grayish dust. Scutellum with delicate but distinct hairs. The entire posterior margin of the pleuræ yellow. Venter yellow. Hypopygium of the usual form. The small yellowish lamellæ of middle size, rather sparsely ciliated. Coxæ and feet pale-yellowish. The hairs on the anterior coxæ are partially blackish, but so delicate that they might be easily overlooked. The tarsi towards their end are only little infuscated. Cilia of the tegulæ black. Wings with a yellow-grayish tinge; the third and fourth longitudinal veins parallel towards their end.

Hab. New York.

Gen. IV. PARACLIUS.

When I adopted, in the fifth part of the *Neue Beiträge*, the genus *Gymnopternus*, and distinguished it from the related genera, it was done merely upon the basis of an investigation of European species, so that I had only these species in view when

I defined the characters of this genus and its differences from the neighboring genera. America possesses species which necessarily come within the definition of the genus *Gymnopternus*, as understood in that publication, but which, at the same time, differ too much from all other species of this genus, to find a natural place among them. The most striking, although perhaps not the most important, character whereby these species differ from the others, is the course of the last segment of the fourth longitudinal vein. At or beyond its middle it is suddenly deflected anteriorly, and its end is so near the end of the third longitudinal vein that the first posterior cell appears almost closed. In order to separate these species from the genus *Gymnopternus*, I have added above to the characters of *Gymnopternus* the complete, or at least nearly complete, parallelism of the third and fourth longitudinal veins. A more minute examination of the species in question shows that they should form two, or perhaps more correctly, three groups; still, before we are able to judge with certainty about it, our as yet imperfect knowledge of the species will require a considerable increase. In the meantime, however, if we draw our attention to the character which distinguishes all these species from the other *Gymnopternus*, that is, to the course of the last segment of the fourth longitudinal vein, we will soon find among these species two principal modifications of this course. In one case the deflection of the fourth segment at or beyond its middle takes place in a steep curve forward, and the vein then runs in a straight direction to the margin of the wing, which it reaches very near the tip of the third longitudinal vein. In the other case the last segment of the fourth longitudinal vein forms beyond its middle a but slightly rounded angle, and thence, in the form of a curve, the concavity of which is turned backwards, it runs to the margin of the wing, which it likewise reaches in the immediate neighborhood of the third longitudinal vein. Those species which show the first of the above mentioned neurations, possess, moreover, many other characters in common, which distinguish them from the species of *Gymnopternus*, and thus they form the genus *Pelastoneurus*. As the most important of these characters may be mentioned the feathered arista, the broad face, which is common to both sexes, strongly convex upon its lower part, and provided with a sharp, curved inferior margin; also the elongated and distinctly pedunculated hypopygium. On the contrary all those species, in which the end of the fourth longitudinal vein forms a curve, the concavity of which is turned backwards, and which in this respect differ more than the others from the species of *Gymnopternus*, approach them very closely in the structure of the face, and are easily distinguished on that account from the species of *Pelastoneurus;* the structure of their face would be indeed altogether like that of the species of *Gymnopternus*, if the face was not somewhat less broad and more narrowed below. The structure of their hypopygium also approaches more to that of the species of *Gymnopternus*, than to *Pelastoneurus*, the hypopygium not being elongated and being provided with a shorter peduncle, so as to appear sessile or almost sessile. The outer appendages of all the species have more of the usual form of a shell than those of the species of *Pelastoneurus*. While there is a great uniformity with regard to all the above mentioned characters, this is not the case with the structure of the antennæ. In both species, which I describe below, the third joint of the antennæ is rounded and the arista more or less distinctly hairy, but not feathered. In the species from Surinam, which I have described in the *Wiener Entomol. Monatschr.* as *Gymnopternus leucospilus*, the third joint of the antennæ is longer, quite distinctly excised on its upper side, and has, like the species of *Pelastoneurus*, a distinctly feathered arista. Whether this difference in the structure of the antennæ is sufficient to form two genera of these species, I am unable to decide, on account of the scanty material at my disposal, but I rather incline to that opinion. *Dolichopus heteropterus* Macq. undoubtedly belongs to this group, but whether it is more related to the two species described below, or to *G. leucospilus*, cannot be decided without the comparison of the specimen; however, according to the statements and the drawing which Mr. Macquart furnishes of the structure of the antennæ, the former seems to be the case. Mr. Bigot founded upon it a separate genus, which he calls *Paracleius*, and distinguishes it from the genus *Gymnopternus* by the latter having the third joint of the male antennæ slightly excised on the upper side, and the fourth longitudinal vein bent, while in *Paracleius* the third joint of the male antennæ is not excised on the upper side, and the fourth longitudinal vein is strongly bent. My experience does not, as yet, allow me to agree with this mode of subdivision; I therefore cannot adopt the genus *Paracleius* in the sense of Mr. Bigot. Nevertheless, I see no inconvenience in retaining the newly coined name, with the usual latinized modification in *Paraclius*, for the new genus which I intend to establish and to define here. As our principal aim at present is an available generic distribution of the already known North American species, I will merely have the latter in view in establishing the characters of *Paraclius*, and leave out *G. leucospilus* for the present. The discovery of a larger number of related species will have to decide whether the character of *Paraclius* is to be modified so as to admit species like *G. leucospilus*, or whether a new genus is to be founded for such species.

The following are the characters of the genus: The first joint of the antennæ hairy on the upper side; third joint of the antennæ rounded; arista dorsal, with the ordinary pubescence, not feathered. Face of very moderate breadth, narrowed towards the mouth, not convex in its lower part and not reaching to the inferior corner of the eye. The first joint of the hind tarsi without bristles. The last segment of the fourth longitudinal vein, beyond its middle, is bent forward in a rounded angle, thence running in a curve, with the concave side turned backwards, towards the margin of the wing, and reaching it quite near the tip of the third longitudinal vein, so that the first posterior cell has but a small opening. Hypopygium entirely disengaged, not prolonged, with a very short pedicel, so as to appear sessile or nearly so; the exterior appendages lamelliform.

The characteristic differences between *Paraclius* on one side and *Gymnopternus* and *Pelastoneurus* on the other, will be easily understood from the foregoing. Besides the species of the latter two genera, there are those of the genus *Hercostomus*, which resemble the species of *Paraclius*; but in this genus the last segment of the fourth longitudinal vein only very gradually approaches the third longitudinal vein, without any vestige of an angular flexure, and reaches the margin of the wing not so near the third longitudinal vein.

Only American species of *Paraclius* are as yet known. The name of the genus (from παρα—κλειω, I close), means that the first posterior cell of the species is almost closed.

Table for the determination of the Species.

1 { Arista with long hairs; first segment of the costa not swollen. 1 **arcuatus** *Lw.*
  Arista with short hairs; first segment of the costa strongly swollen. 2 **albonotatus**, n. sp.

Description of the Species.

1. P. arcuatus Loew. ♀.—Obscure viridis, pedibus flavis, ex parte fuscis, alis nigricantibus, primo costæ segmento non incrassato.

Dark green, feet yellow, partially dark-brown, wings blackish, first segment of the costa not thickened. Long. corp. 0.12. Long. al. 0.11.

Syn. *Pelastoneurus arcuatus* Loew, Neue Beitr. VIII, 39, 4.

Green, bright. Face narrow, still narrower below, covered with thick white dust. Front green, rather dull from a whitish dust. Antennæ comparatively small, black, the third joint rounded. Arista with comparatively long hairs, but not feathered. Cilia of the inferior orbit whitish. The upper side of the thorax is upon the first two-thirds of a dark bronze color and less bright, upon the last third of a magnificent golden green color and very bright; the triangular impression on each side near the transverse suture is thickly covered with white dust; a small spot in the vicinity of the posterior corner of the thorax is dusted in a similar manner. In looking at the thorax from behind, a deep black stripe-like double spot above the root of the wing becomes apparent. Scutellum rather bright, of copperish color with a green middle line. The extreme tips of its lateral corners are deep black, and the hairs on its upper side are particularly distinct. Abdomen bright, rather dark green, along the incisures blacker, the lateral margins of the single segments with not very distinct spots of whitish dust. Pleuræ greenish-black, and rather gray from a thin whitish dust. Fore coxæ yellowish-brown, towards the tip lighter; middle and hind coxæ as far as the tip black. Feet brownish-yellow; fore and middle femora on the upper side brownish, hind femora rather dark brown upon their whole latter part. Hind tibiæ, with the exception of the root, dark brown. Fore and middle tarsi from the tip of the first joint dark brown; the whole hind tarsi blackish-brown. Cilia of the tegulæ black. Wings blackened, towards the anterior margin darker; the last segment of the fourth longitudinal vein is suddenly bent forward almost at a right angle, and this segment forms a curve, the convexity of which is turned backwards.

Hab. Cuba. (Poey.)

2. P. albonotatus, n. sp. ♂ and ♀.—Obscure viridis, pedibus totis nigris, alis nigricantibus, primo costæ dimidio valde incrassato.

Dark green, feet entirely black, wings blackish, the first segment of the costa very much thickened. Long. corp. 0.17—0.18. Long. al. 0.17.

Dark green, sometimes more bronze-green. Face of the ♂ narrow, of the ♀ a little broader; in both sexes it is covered with a snow-white dust. Palpi brownish-black. Antennæ entirely black, of very moderate size, the third joint rounded; arista with the usual short pubescence. Front covered with a rather dense white dust. Cilia of the inferior orbit whitish. Thorax dark metallic green, sometimes, with the exception of the posterior part of the upper side, of a dusky bronze-color. The pleuræ and the triangular lateral impression on the transverse suture are covered with a bright white dust. Scutellum of the same color as the upper side of the thorax. Abdomen on the posterior margin of the single segments usually rather blackish-blue-green, upon the remaining part of the segments more golden-green or coppery; on the lateral margin covered with white dust. Hypopygium disengaged, sessile, greenish-black; lamellæ only of very moderate size, rounded, brownish-black. Coxæ and feet black, the former covered with black hairs, the latter with a greenish lustre; fore tibiæ only with a simple row of bristles; middle and hind tibiæ with numerous bristles. Tegulæ blackish-brown, with black cilia. Wings of moderate size, of an elongated-oval shape, blackened; the last segment of the fourth longitudinal vein about its middle is bent forward at an obtuse angle, and its tip, which reaches the margin quite near the third longitudinal vein, forms a curve, the concavity of which is turned backwards. In the ♂ the portion of the costa which lies before the end of the first longitudinal vein shows a very strong swelling; in the ♀ this swelling is much weaker, but still of a rather conspicuous size.

Hab. New Orleans.

Gen. V. **PELASTONEURUS.**

The characters of the genus are the following: First joint of the antennæ short, hairy on the upper side; third joint rounded; arista dorsal, distinctly feathered. Face in both sexes comparatively broad, upon its lower part strongly convex; its lower margin is sharp, and forms a curve. Proboscis stouter than in *Gymnopternus*, and approaching in its structure the species of *Medeterus*. The first joint of the hind tarsi without bristles. The last segment of the fourth longitudinal vein turns forward at or beyond its middle in a strong curve, and runs then almost in a straight line towards the margin of the wing, which it reaches closely in the vicinity of the tip of the third longitudinal vein, so that the first posterior cell is almost closed. The hypopygium is entirely disengaged, very much elongated, pedunculated, with lamelliform black appendages, which, in most of the species, have a very elongated form, and are of a more solid substance than in the allied genera.

The next related genus is *Paraclius*. The differences of both have already been detailed above. *Pelastoneurus* can hardly be mistaken for any other genus.

As yet, only American species of *Pelastoneurus* have been made known. Among the species described by former authors, *Dolichopus maculipes* Walk., and *D. bifrons* Walk., seem to belong here. The name of the genus (from πελάξω, I approach, and νευρον, the nerve) has reference to the position and the peculiar course of the last segment of the fourth longitudinal vein.

Table for the determination of the Species.

1	Cilia of the inferior orbit black.	2
	Cilia of the inferior orbit pale.	4
2	Thorax with a large spot of white dust on the posterior margin.	**1 longicauda** *Lw.*
	Thorax without a spot of white dust on the posterior margin.	3
3	Wings blackened.	**2 lugubris** *Lw.*
	Wings gray.	**3 lætus** *Lw.*
4	Fore coxæ blackened at the basis.	**4 vagans** *Lw.*
	Fore coxæ not blackened at the basis.	**5 cognatus** *Lw.*

Systematic arrangement of the Species.

I. Cilia of the inferior orbit black.

1. **longicauda** *Lw.*
2. **lugubris** *Lw.*
3. **lætus** *Lw.*

II. Cilia of the inferior orbit pale.

4. **vagans** *Lw.*
5. **cognatus** *Lw.*

Description of the Species.

I. Cilia of the inferior orbit black.

1. P. longicauda Loew. ♂.—Aeneo-niger, facie argenteo micante, sub antennis triangulum nigrum gerente, ciliis oculorum inferioribus nigris.

Bronze-black; face with a silvery lustre, with a black triangular spot under the antennæ; cilia of the inferior orbit black. Long. corp. 0.17. Long. al. 0.16.

Syn. *Pelastoneurus longicauda* Loew, Neue Beitr. VIII, 37, 1.

Face, for a ♂, extremely broad, the inferior two thirds of it are strongly convex and have a bright silvery-white reflection, which shows a somewhat olive-brown appearance only in a certain oblique light; the upper, flat portion of the face has in each lower corner a deep, triangular spot with a silvery lustre; that triangular part of it, which is not covered by this spot, appears deep-black, when seen from above; seen from below, it appears less dark and somewhat dusty. The lower margin of the face is very sharp. Palpi large, on the outside with a silvery-white lustre and covered with black hairs. Front shining blackish. Antennæ brownish black; the under side of the first and second joints brownish-red; the rounded third joint rather large. Arista rather short, very much thinner towards the tip, and upon the last two thirds feathered with short hairs. Cilia of the inferior orbit black. Thorax bronze-black, rather shining, with an almost imperceptible white dust; the upper side of the thorax shows five spots covered with snow-white dust, namely one on each side near the transverse suture, one in the shape of a dot, on each side above the root of the wing near the posterior corner, and finally a large triangular spot in the middle of the hind margin; the velvet-black stripe-like double spot immediately above the root of the wing, so common in the species of this genus, is very distinct here.

Coxæ and pleuræ black, with a silvery lustre. Scutellum with velvet-black lateral spots and with a velvet-black middle-stripe, smooth steel-blue between the corners and the middle stripe. Abdomen with a violet lustre. Hypopygium black, upon the under side covered with snow-white dust, pedunculated, not very stout, but very long, so that it reaches as far as the basis of the abdomen; the comparatively small lamellæ brownish-black; the interior appendages slender, black, provided at the tip with not very numerous but long hairs in the shape of a brush. Feet brownish-yellow, hind femora blackened on the upper side of the extreme tip; the bristles on the upper side of the tibiæ are inserted upon irregular small black-brown spots; tarsi dark brown, paler at the basis. Cilia of the tegulæ black. Wings comparatively small and narrow, tinged with blackish-gray and darker towards the end of the anterior margin.

Hab. New York. (Osten-Sacken.)

Observation.—The punctation of the tibiæ may remind one of *Dolichopus maculipes* Walk. This species is described as only one and a half lines long and bronze-green, and with all the femora having black tips. No mention whatever is made in Mr. Walker's description of the very peculiar structure of the face and of the striking white spots on the thorax, which are peculiar to *Pelastoneurus longicauda.* Under such circumstances the identification of these two species is impossible, the more so as all the species of *Pelastoneurus* are very much alike and as the spots on the tibiæ are a character which frequently occurs in this genus.

2. P. lugubris Loew. ♀.—Niger, thorace fusco-pollinoso, opaco, ciliis oculorum inferioribus nigris, alis nigricantibus.

Black, thorax covered with brown dust, dull; cilia of the inferior orbit black; wings blackish. Long. corp. 0.11. Long. al. 0.10.

Syn. *Pelastoneurus lugubris* Loew, Neue Beitr. VIII, 38, 2.

Black. Face black, with a whitish, not shining dust, and with a blackish-brown, not well defined middle stripe; upon the larger, inferior part but moderately convex. Palpi rather large, black, on the outside with a thin whitish dust and black hairs. Front dull, brownish-black. Antennæ reddish-brown, the basis of the first and the larger part of the third joint brownish-black; the third joint is small and rather rounded, beset with short but distinct hairs. Arista towards the tip feathered with short hairs. Cilia of the inferior orbit black. The spot on each side near the transverse suture of the thorax is covered with white dust, however this dust is not distinctly seen in every direction; the usual deep-black stripe-shaped double spot immediately above the root of the wing becomes distinctly visible, when looking at the thorax from behind; likewise the usual little white spot in the neighborhood of the hind corner is seldom distinctly seen and is always very small. On the posterior margin of the thorax there is no spot with white dust. Scutellum bluish-black with velvet-black lateral corners. In well preserved specimens there is a middle-stripe with grayish-white dust. Pleuræ black, gray on account of a thin whitish dust. Abdomen bronze-black, each segment on the lateral margin with a small spot covered with white dust and not visible in every direction. Fore coxæ brownish-yellow, with an almost imperceptible, very thin covering of white dust. Middle and hind coxæ black. The color of the feet is rather variable; usually they are yellowish-brown, the upper side of the anterior femora, the tip of the hind femora, likewise all the tibiæ and tarsi black-brown; nevertheless there are specimens in which they are more of a brownish-yellow color and where the tip of the femora and the tarsi, with the exception of their roots, are blackish-brown, while the upper side of the tibiæ is indistinctly spotted in consequence of the brownish color of the places of insertion of the bristles. Cilia of the tegulæ black. Halteres blackish. Wings rather small, narrowed towards the basis, distinctly blackened, darker towards the anterior margin; in more faded specimens dark margins appear around the veins, as is also the case in the other species of the same genus.

Hab. Trenton Falls, N. Y. (Osten-Sacken.)

3. P. lætus Loew. ♂.—Viridis, ciliis oculorum inferioribus nigris, fronte et dimidio thoracis posteriore violaceis, alis ex fusco cinereis.

Green, cilia of the inferior orbit black; front and hind part of the thorax violet; wings brownish-gray. Long. corp. 0.12—0.13. Long. al. 0.12—0.13.

Syn. *Pelastoneurus lætus* Loew, Neue Beitr. VIII, 38, 3.

Dark-green, rather shining. Face considerably broad and covered with a dense snow-white dust, the inferior third convex.

Palpi of moderate size and yellowish color, covered on the outside with snow-white dust. Antennæ yellowish-red, the third joint a little longer than broad, at the tip altogether rounded, its apical half blackish-brown; arista towards the tip feathered with short hairs. Cilia of the inferior orbit black. Front violet, sometimes almost steel-blue. Upper side of the thorax green with a thin gray-brownish dust, upon the larger portion of the posterior part violet; the spot on each side of the suture is covered with white dust; the usual deep black, stripe-shaped double spot, immediately above the root of the wing is very distinct; the small dot of white dust in the vicinity of the hind corner, however, is seldom distinctly visible; on the posterior margin of the thorax there is no spot of white dust. Scutellum shining black-green with deep-black lateral corners; only in faultless specimens there is a middle stripe of white-grayish dust, surrounded by a more black coloring. Pleuræ black, gray on account of whitish dust. Each segment of the abdomen has on the lateral margin a spot of white dust, which is not very sharply defined, and the sixth, small segment, is entirely covered with whitish dust. Hypopygium shortly pedunculated, greenish-black; on the under side gray from pale dust; it reaches with its tip as far as the middle of the abdomen; the long brownish-black lamellæ are narrow, at the end gently bent upwards, reaching the basis of the abdomen; the slender interior appendages are also blackish-brown, beset at the tip with a few long hairs. Fore coxæ yellowish, middle and hind coxæ blackish almost as far as the tip. Feet pale-yellowish; the tip of the hind femora is not of a dark color, and the bristles on the upper side of the tibiæ are not inserted on dark spots; middle and hind tarsi, with the exception of the roots, black-brown; fore tarsi brown only at the tip. Cilia of the tegulæ black. Wings with a more brownish-gray than blackish-gray tinge and darker towards the anterior margin.

Hab. Georgia; District Columbia. (Osten-Sacken.)

II. CILIA OF THE INFERIOR ORBIT PALE.

4. P. vagans LOEW. ♂ and ♀.—Obscure viridis vel nigro-æneus; antennarum basi rufâ, ciliis oculorum inferioribus pallidis, coxis anticis, excepto apice, nigris, alis cinereis.

Dark-green or bronze-black; the root of the antennæ red; cilia of the in-

ferior orbit pale; fore coxæ with the exception of the tip black; wings gray. Long. corp. 0.14—0.15. Long. al. 0.15.

SYN. *Pelastoneurus vagans* LOEW, Neue Beitr. VIII, 39, 5.

Dark-green or blackish bronze-colored, moderately shining. Face broad, with a snow-white dust, in the ♀ with a broad gray-brownish middle stripe, which is wanting in the ♂; its lower part convex. Palpi rather large, blackish, yellowish at the tip, on the outside covered with a dense snow-white dust and black hairs. Front covered with a brown dust, seldom entirely concealing the ground color, which is steel-blue, except in the vicinity of the upper corners where it is violet. Antennæ not very long, the third joint, however, which is rounded and distinctly hairy, is rather large; their color is red; the upper side of the first and the greater part of the third joint are black-brown; sometimes the upper side of the second joint has the same color. Arista feathered with rather long hairs. Cilia of the inferior orbit whitish. The color of the upper side of the thorax, in recently excluded specimens, is more green, and shows then two longitudinal lines of a violet color, which increase in breadth backwards and become visibly divergent; in more faded specimens this color is more dark bronze-black, and of the two violet longitudinal lines only the hind part is often perceptible, which then becomes more extended. The spot of white dust on each side, near the suture, and the usual deep-black double spot immediately above the root of the wing, are very striking; upon the hind corner, which is of a brighter green color, there is a spot of white dust in a diagonal direction; however, it is very difficult to perceive. The extreme tip of the lateral corner of the scutellum appears black, the elevated middle stripe is usually green, and the slight depression on each side of the latter more bronze-colored. I cannot perceive any hairs upon the surface of the scutellum. Abdomen bronze-green, often somewhat copper-colored; the white dust in the vicinity of the lateral margin does not form any distinct spots. Coxæ black with a bright snow-white lustre; fore coxæ yellow at the tip to a rather large extent, the middle and hind ones only to a very small extent. Feet somewhat brownish-yellow; fore tarsi only at the tip, middle and hind tarsi from the tip of the first joint, blackish-brown. Cilia of the tegulæ black. Wings in recently developed specimens slightly tinged with gray, in faded ones visibly darker. The elongated and slender hypopygium is pedunculated and of a black color; the long and narrow lamellæ are of an equal breadth, black, fringed with rather long black hairs; the interior appendages small, without hairs at the tip.

Hab. Middle States. (Osten-Sacken.)

5. P. cognatus Loew. ♀.—Obscure æneus, antennarum rufarum apice fusco, ciliis oculorum inferioribus pallidis, coxis anticis totis flavis.

Dark bronze-colored; the tip of the red antennæ brown; cilia of the inferior orbit pale; fore coxæ entirely pale. Long. corp. 0.15. Long. al. 0.15.

Of this species I know only the ♀, which is a little larger than that of the preceding species, and is distinguished from it by the paler antennæ, by the hairs of the feathered arista being a little longer, by the depression on each side of the suture of the thorax which is dusted with white only in the interior corner, and by the entirely yellow fore coxæ. The specific distinctness cannot be called in doubt.

Hab. Middle States. (Osten-Sacken.)

Gen. VI. **TACHYTRECHUS.**

The vertical diameter of the strongly pubescent eyes is very large, and, on that account, the head very high. The face is comparatively narrow, becomes gradually broader towards the mouth, and reaches altogether the lower corner of the eyes. Palpi of very moderate size, also in the female. The first joint of the antennæ hairy on the upper side; the third joint of moderate size, rounded or ovate. Arista dorsal, with an almost imperceptible microscopic pubescence or apparently bare. Cilia of the whole orbit particularly long. Feet rather slender; femora not very strong; the fore femora towards the basis a little thickened. The first joint of the hind tarsi not bristly. Wings comparatively small; the last segment of the fourth longitudinal vein converges gradually towards the third longitudinal vein, so as to reach the margin of the wing only at a moderate distance from this vein and before the tip of the wing; upon its middle there is a more or less distinct flexure, which is sometimes more considerable in the ♂ than in the ♀, but is never very strong. The hypopygium is entirely disengaged, with lamelliform rounded exterior appendages of moderate size.

The habitus of the species belonging to the genus *Tachytrechus* is very peculiar, so that they cannot be easily mistaken or confounded with species of another genus. It is difficult to give an adequate expression to such peculiarities of the habitus in the characteristic of a genus. All that has been said above about the peculiar structure of the head, deserves in this respect especial attention. A particular mark, which distinguishes the genus *Tachytrechus* from all the other related genera is, that the face reaches as far as the inferior corner of the eye.

The species of *Tachytrechus* known at present are found in Europe, Asia Minor, Africa and North America.

The name of the genus (from ταχύς, rapid, and τρέχω, I run), has reference to the habit of many species to run along sandy and muddy banks.

Table for the determination of the Species.

1	Antennæ for the most part dark yellow.	1 **moechus** *Lw.*
	Antennæ altogether black.	2
2	Tibiæ brownish-yellow almost to the tip.	2 **vorax** *Lw.*
	Tibiæ black, with a greenish reflection.	3 **angustipennis** *Lw.*

Systematic arrangement of the Species.

I. The second joint of the antennæ rudimentary.

1. **moechus** *Lw.*

II. The second joint of the antennæ of the usual structure.

2. **vorax** *Lw.* 3. **angustipennis** *Lw.*

Description of the Species.

I. THE SECOND JOINT OF THE ANTENNÆ RUDIMENTARY.

1. T. moechus Loew. ♂ and ♀.—Viridi-aeneus, antennis maximâ ex parte flavis.

♂. Setæ antennalis tenuissimæ apice in lamellam atram dilatato, pedibus flavis.

♀. Setâ antennali simplice, pedibus nigro et testaceo variegatis.

Bronze-green, antennæ mostly yellow.

♂. The tip of the very slender arista enlarged into a black lamella, feet yellow.

♀. Arista simple, feet partly black, partly brownish-yellow. Long. corp. 0.24—0.26. Long. al. 0.22—0.23.

Syn. *Tachytrechus moechus* Loew, Neue Beitr. VIII, 40, 1.

Male. Face very long and narrow, more broad below, almost golden-yellow, but without any lustre. Palpi small, blackish. Antennæ, in consequence of the rudimentary condition of the second joint, apparently two-jointed, as in the male of the genus *Haltericerus;* the first joint elongated and somewhat swollen, of a bright dark-yellow, bare on the under side, on the upper side covered with black hairs; the rudimental second joint of the same color; the third joint also extremely small, rounded or somewhat kidney-shaped, brownish-black and only at the root yellow. The arista very slender, bare, half as long as the thorax and abdomen taken together; it is black, only at the extreme tip white, and ends in a small, deep-black, rather rounded lamella, which is white at its extreme, somewhat attenuated, basis. Front metallic-green, rather without lustre, covered with brown-gray dust, which is only visible when viewed from the side. Cilia of the posterior orbit black above, yellowish below. Thorax metallic-green, usually with a more bronze or copper-colored or even violet middle line; it is rather shining, covered, however, with a distinct brownish-yellow dust. Scutellum and abdomen have the same color and dusted covering. Hypopygium pedunculated, black, upon the lower side more black-green, and covered with yellow dust; the yellow, rather rounded lamellæ with not very long black hairs. Pleuræ with a covering of thick dark-yellow dust upon bronze-green ground. Fore coxæ bright yellow with almost golden-yellow dust, without any lustre and with some delicate sparse black little hairs. Middle and hind coxæ blackish, gray on account of a yellowish dust. Feet bright yellow; middle and hind tarsi from the middle of the first joint brownish-black; fore tarsi almost imperceptibly flattened; in a certain direction they show a bright snow-white lustre, which reaches as far as the root upon the fore tibiæ. Hind femora before the tip with a single bristle. Cilia of the tegulæ black. Wings tinged with gray. The tip of the fourth longitudinal vein is near the tip of the third.

Female. It differs remarkably from the male in color. Face very narrow for a female, a little broader below, pale gray-yellowish, seldom white-grayish, and then at least upon its inferior part yellowish. Palpi small, blackish. First joint of the antennæ much smaller than that of the male, less swollen, and more of a reddish-yellow color; the second joint of the same color and less abortive than in the male; the third joint a little larger than that of the male, brownish-black, reddish-yellow only on the inferior side of the basis, rounded. The black arista plain, bare, gradually thinner towards the end. Front and cilia of the posterior orbit the same as those of the male. Upper side of the thorax less green, more bronze-colored, the dust more brown, and the middle line, which is of a different color, more distinct. The abdomen is more of a bronze color; the dust upon it, however, is rather whitish. The dust on the pleuræ is also more whitish than yellow. The fore coxæ are likewise blackened as far as the extreme tip; femora green-black; their tip to a considerable extent with a yellowish-brown tinge, which extends further on the lower side than on the upper side; hind femora before the tip only with one bristle. Fore tibiæ usually brownish-yellow, with a very thin whitish pruinose covering; fore tarsi black, with the exception of their extreme basis. Middle and hind tibiæ usually dark brown, with yellowish-brown basis and with black tip. Hind tarsi brownish-black. Cilia of the tegulæ black. Wings clouded with blackish-gray.

Hab. Trenton Falls, N. Y. (Osten-Sacken.)

Observation.—A genus, based upon the present very remarkable species, would be entitled to the same claims as the genus *Haltericerus,* with which it nearly coincides in the structure of the antennæ. I consider the establishment of such a genus as unnecessary, as this species agrees in all other respects with the already known species of *Tachytrechus,* which, however, are as yet not very numerous.

II. THE SECOND JOINT OF THE ANTENNÆ OF THE USUAL STRUCTURE.

2. T. vorax LOEW. ♂ and ♀.—Æneus, abdomine æneo-viridi, antennis pedibusque nigris, femorum apice tibiisque præter apicem flavis.

♂. Apice alarum guttâ candidâ maculâque adjectâ atrâ ornato.

♀. Alis immaculatis.

Bronze-colored, abdomen bronze-green, antennæ and feet black, tip of femora and the tibiæ, with the exception of the tip, black.

♂. Tip of the wings with a snow-white drop, and with an adjoining deep-black spot.

♀. Wings spotless. Long. corp. 0.26—0.27. Long. al. 0.23—0.24.

SYN. *Tachytrechus vorax* LOEW, Neue Beitr. VIII, 41, 2.

Face narrow, but considerably broader than that of the previous species, broader inferiorly, in both sexes covered with a pale yellow dust, and without lustre. Palpi small, black. Antennæ of the usual form, black. Arista in both sexes plain and bare. Front covered with a dense yellow or brown dust. Cilia of the posterior orbit above black, below white. Upper side of the thorax with a gray-yellowish or brownish-yellow dust upon a metallic-green or partially copper-colored and lustrous ground, very dull. The scutellum has a similar coloring, still its ground color can sometimes be distinctly recognized. Abdomen green and coppery, dull with a gray-whitish dust. Pleuræ and coxæ grayish-green, on account of a whitish dust upon green ground. Femora dark metallic-green, thinly pruinose with whitish, their tip brownish-yellow; hind femora before their tip with a row of four bristles; tibiæ brownish-yellow; the tip of the fore and hind tibiæ blackened, the tip of the middle tibiæ usually only brown. Tarsi black, plain also in the male; the fore tarsi usually brownish-yellow only at the extreme root, the middle tarsi, however, brownish-yellow upon the first half of the first joint. Cilia of the tegulæ black. Wings of the male narrow, hyaline, scarcely tinged with gray, at the tip with a small spot, the first two-thirds of which are deep-black, the last third, however, appears snow-white when seen against the light. Wings of the female not quite so narrow as those of the ♂, distinctly tinged with gray, with a slight dark shadow around the hind transverse vein. The end of the fourth longitudinal vein in both sexes is less approximate to the end of third longitudinal vein, than in the previous species. The short pedunculated hypopygium of the ♂ is black, upon the inferior side more greenish-black, but gray from a pale dust; the lamellæ are black, of moderate size only, rather rounded, and covered with black hairs.

Hab. District Columbia. (Osten-Sacken.)

3. T. angustipennis Loew. ♂.—Viridis, antennis nigris, pedibus totis ex viridi nigris, alis immaculatis, basim versus attenuatis.

Green, antennæ black; the whole feet greenish-black; wings spotless, narrower towards the basis. Long. corp. 0.22. Long. al. 0.19.

Syn. *Tachytrechus angustipennis* Loew, Berl. Ent. Zeit. VI, 213, 64.

Green and but little shining, on account of being rather densely covered with a fine dust. Palpi black, with a gray-yellowish dust. Face pale, ochre-yellow, dull. The rather small antennæ black. Front dull from being covered with an ochre-yellow dust. Cilia of the lateral and inferior orbit whitish. The upper side of the thorax is covered with a grayish ochre-yellow dust, so as to make the green ground color but little apparent; upon its middle there are two brown longitudinal lines, which diverge a little behind and are very much shortened; some portions of the usual lateral stripes are also visible, and the single bristles are inserted upon brownish-black spots. Scutellum dull, usually more brown than the upper side of the thorax. Pleuræ greenish-gray. Abdomen green, covered with a rather thick whitish dust, which gives it a somewhat checkered appearance; viewed from another point, the middle line and the posterior margins of the single segments appear almost black. Hypopygium black, with whitish dust; the lamellæ are of moderate size, rounded oval, with short hairs, which are black on the upper and apical margin, and whitish on the lower margin. Coxæ black, with yellow-whitish dust; fore coxæ beset with extremely short, delicate and sparse hairs; besides, on the inner side of their basis there are a few stiff black hairs, and towards the tip a few black bristles. Feet black; femora and tibiæ with a metallic-green lustre; on the front side of the hind femora there is a single black bristle, rather distant from the tip; very characteristic are the bristles on the upper side of the hind tibiæ, which have shorter bristles in the vicinity of the basis and a longer one near the tip, otherwise of the usual shape; upon the middle, however, there is a row of three solitary remarkably flattened bristles. All the tarsi plain. Cilia of the tegulæ black. Wings narrow, towards the basis still more narrowed, grayish-hyaline; the second portion of the marginal cell more distinctly dusky, the posterior transverse vein with a somewhat darker margin; the costa distinctly thickened upon the middle of its first segment.

Hab. District of Columbia. (Osten-Sacken.)

Gen. VII. **ORTHOCHILE.**

The following are characters of the genus *Orthochile:* Proboscis slender, elongated and directed straight downwards. Palpi likewise very elongated. The first joint of the antennæ distinctly hairy on the upper side, the second transverse, the third not elongated. Arista dorsal, with an extremely short, almost imperceptible microscopic pubescence. The inferior corner of the eye distinctly bordered by the narrow cheeks. Hypopygium entirely disengaged, sessile, its exterior appendages lamelliform. The first joint of the hind tarsi without bristles. The last segment of the fourth longitudinal vein converges towards the third, although but gradually, still sufficiently so as to reach the margin of the wing quite far from its tip, in the immediate vicinity of the tip of the third longitudinal vein. The whole structure of the body approaches rather closely that of the species of *Hercostomus*, still the species of *Orthochile* distinguish themselves sufficiently by the extraordinary elongation of the proboscis and of the palpi, and by the presence of narrow cheeks; besides, the tips of the third and fourth longitudinal veins lie more closely together and farther from the tip of the wing, than it is the case with any of the species of *Hercostomus*. The described species of this genus are found in Europe and in Asia Minor. The North American species, which Mr. Walker described as *Orthochile derempta*, cannot, by any means, be an *Orthochile*, as its arista has an apical position. In what genus it is to be located, or whether a new genus is to be created for it, cannot be determined from the very imperfect statements of Mr. Walker, as he does not even state the sex of his specimen, nor whether the first joint of the antennæ is bare or hairy, whether the first joint of the hind tarsi is bristly or without bristles, and whether the fourth longitudinal vein converges towards the third or not.

The name of the genus (from ὀρϑός, straight, and χεῖλος, the lip) has reference to the form of the proboscis, by which the species of this genus can easily be distinguished.

Gen. VIII. **SYBISTROMA.**

The following are the most important characters of the genus *Sybistroma:* Face not reaching as far as the lower corner of the eye, very narrow in the male, very broad in the female. The first joint of the antennæ distinctly hairy on the upper side; the second joint of the antennæ transverse; the third narrow and somewhat long in the male, broad and short in the female. Arista subapical; in the male it is very long, its first joint longer than the second and thickened at the end in the shape of a knot; the second has at its end a lamelliform enlargement. Scutellum very distinctly hairy. Hypopygium entirely disengaged, on a short peduncle; its exterior appendages lamelliform. The first joint of the hind tarsi without bristles. First posterior cell narrow, towards its end very narrow; nevertheless the last segment of the fourth longitudinal vein only very gradually approaches the third longitudinal vein.

The next related genera are *Hercostomus* and *Hypophyllus;* their species were formerly located with *Sybistroma.* From both these genera *Sybistroma* differs, besides the peculiar structure of the antennæ of the male, by the very distinct hairs on the scutellum.

This genus was hitherto confined to the European *Sybistroma nodicornis,* unless perhaps *Sybistroma Dufourii* belongs to it.

The derivation of the name of this genus is not clear to me. That it should be derived from σιβύνη, the spear, and στρῶμα, the couch, is not probable, at least it would then be a very unsuccessful composition.

Gen. IX. HERCOSTOMUS.

I have established the genus *Hercostomus* in the fifth number of the "*Neue Beiträge,*" upon the species *Sybistroma cretifer* Hal., *fulvicaudis* Walk., and *longiventris* Loew. These species agree in the following characters: in the distinct pubescence of the otherwise plain arista; in the structure of the proboscis; in the distinct hairs upon the surface of the suctorial flaps; in the glabrousness of the scutellum, and in the apparently sessile hypopygium of the male. The last of them approaches the species of *Hypophyllus* very much, and shows some marked differences from the two first, so that their consolidation into one genus may be considered as provisional, and will certainly have to be modified when a more considerable number of species will be known.

In order to give more homogeneity to the genus *Gymnopternus,* it was necessary, as I have remarked before, to exclude all those species the third and fourth longitudinal veins of which are decidedly convergent. These species, however, approach the above named species of *Hercostomus* more than the species of any other genus. I see no difficulty at present to unite them with the genus *Hercostomus,* which is not ripe as yet for further subdivision on account of the insufficiency of our knowledge of its species.

The characters of the genus may be defined as follows: Antennæ of ordinary structure; the first joint hairy on the upper side; the second joint of the antennæ transverse; the third joint not elongated; arista dorsal, of the usual plain structure. Scutellum without hairs. Face not reaching as far as the inferior orbit. Hypopygium on a very short peduncle, so as to appear sessile; exterior appendages lamelliform; interior appendages but little developed. The first joint of the hind tarsi without bristles. The first posterior cell narrowed towards its end; the last segment of the fourth longitudinal vein only gradually approaches the third longitudinal vein.

The differences from the genera *Gymnopternus*, with its third and fourth longitudinal veins parallel, from *Pelastoneurus* with its feathered arista and the fourth longitudinal vein strongly inflected forwards, *Paraclius* with the end of the fourth longitudinal vein angularly inflected forwards and then running towards the margin of the wing, in the shape of a segment of a circle, are self-evident. The species of *Hercostomus* differ from those of *Hypophyllus* by their arista, which is plain in both sexes, by the apparently sessile hypopygium and by the lesser development of its interior appendages.

Up to the present time only European species have been made known; I am now enabled to add to them a North American species.

The name of the genus (from ἕρκος, wall, fence, and στόμα, mouth) has reference to the oral opening, surrounded, fence-like, by the suctorial surface covered with rows of hairs; this being the case with those species on which I had originally established this genus.

1. H. unicolor, n. sp. ♂.—Obscure viridis, nitidus, antennis, oculorum tegularumque ciliis pedibusque totis nigris, alis cinereis, lamellis hypopygii ovatis, nigricantibus, in disco sordidissime exalbidis.

Dark-green, bright; antennæ, cilia of the inferior orbit and of the tegulæ, also the feet, black; wings gray, lamellæ of the hypopygium oval, blackish, upon their middle very dingy whitish. Long. corp. 0.11—0.12. Long. al. 0.13.

Dark metallic-green, almost black-green, bright. Front metallic-green. Antennæ black; third joint oval, at the tip only with a blunt point. The color of the narrow face seems to have been originally gray. Cilia of the inferior orbit, as far as I can distinguish, black. Scutellum without hairs. Hypopygium black; its lamellæ rather large, oval, narrowed at the root, fringed with black hairs; they have a blackish appearance, are however really black only on the margin, while in the middle, at least when seen in a certain direction, they look dingy whitish. Coxæ and feet black, the latter plain; femora with a greenish reflection; the upper side of the fore tibiæ only with two small bristles. The yellowish-white tegulæ have black cilia. Wings grayish hyaline with rather delicate black veins; they are comparatively long and narrow and have a very regular elongated elliptic outline. The last segment of the fourth longitudinal vein is especially long, with an imperceptible sweep and approaches in its entire course gradually the third longitudinal vein, so that their ends are not very distant from each other.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Gen. X. **HYPOPHYLLUS.**

This genus may be characterized in the following manner: The first joint of the antennæ distinctly hairy on its upper edge, the second joint of the antennæ transverse, the third not elongated; the arista dorsal, very bare, rather strong as far as its end; its first joint in the male remarkable either for its great length or its incrassated tip. The face of the male very narrow, especially below; the face of the female broader, sometimes much broader. Scutellum not hairy. Abdomen elongated, that of the male rather strikingly pointed at the end. The entirely disengaged hypopygium pedunculated, usually of a yellow color; its exterior appendages lie on its under side, stretched out alongside of each other, and are small, narrow, elongated lamellæ; the interior appendages are remarkable for their extraordinary development, are much longer than the exterior ones, either strap-shaped or broader at the end and beset with long hairs. Feet comparatively long and slender; the first joint of the hind tarsi without bristles and shorter than the second. The last segment of the fourth longitudinal vein has only a very gentle sweep and very gradually approaches the third longitudinal vein.

The narrow, stretched-out shape of the body, the peculiar structure of the arista, the long pedunculated yellow hypopygium and the peculiar structure of its appendages, distinguish this genus sufficiently from all the other related genera.

Only European species of *Hypophyllus* are as yet known.

The name of the genus (from υπό, under, and φύλλον, the leaf) has reference to the mode of life of the species, found in shady places on bushes and herbs and running on both sides of the leaves.

Gen. XI. **HALTERICERUS.**

This genus was established by Mr. Rondani, in the year 1844, in the Xth volume of the *Annali delle scienze Naturali di Bologna*, under the name of *Ludovicius*, which afterwards, in the first volume of the *Prodromus Dipterologiæ Italicæ*, he changed into *Haltericerus*. His statements with regard to the characters of the genus are not sufficient and not altogether correct. I am able to complete and to correct them as follows, from two Spanish species of my own collection, one of which, according to Mr. Haliday, is also found in Upper Italy.

The face of the male very narrow, that of the female comparatively very broad; in both sexes it does not quite reach the lower margin of the eye. Palpi small. The first joint of the antennæ of the male large and very much inflated, in the female much smaller and less inflated, in both sexes however beset on the upper side only with extremely short, rather imperceptible hairs. The second joint of the antennæ in both sexes very small, rather rudimental, somewhat imbedded into the first joint and only distinguishable by the bristles with which it is fringed at its end. The third joint of the antennæ in the females of all species appears to be rounded; in the males it has either a more elongated or almost a conical form. The arista of the female is plain, dorsal, two-jointed, its first joint short. The arista of the male is also two-jointed; its first joint is filiform and very much elongated, the abbreviated second joint forms a flat lamella; the position of the arista in the males with an oval third joint is distinctly subapical, in the other species it is apical or appears to be so. The neuration of the wings resembles that of the species of *Systenus*, the last segment of the fourth longitudinal vein being gently, but still sufficiently inflected forward to approach with its end closely to that of the third longitudinal vein. Feet slender, with scarce bristles; the first joint of the hind tarsi without bristles and much shorter than the second. Hypopygium entirely disengaged and pedunculated; its exterior appendages are lamelliform, the interior ones much less developed than those of *Hypophyllus*.

The species of *Haltericerus* are related to the species of the genera *Hypophyllus* and *Hercostomus;* they differ from them sufficiently by the rudimentary second joint of the antennæ and also the structure and position of the arista. They have also some resemblance to the species of the genus *Systenus*, the first antennal joint of which, however, has no hairs on the upper side and the arista is distinctly apical in both sexes.

The name of the genus (from ἁλτῄρ, the poiser, and κέρας the horn) has reference to the remarkable structure of the arista of the male.

As yet, only the three above named species of *Haltericerus*, which belong to the Fauna of Southern Europe, are known.

Gen. XII. **DIOSTRACUS.**

The North American species, for which I have established this genus, resembles *Thinophilus.* In the structure of the abdomen it reminds me of *Aphrosylus*, with which it also agrees in the structure of the hypopygium. It differs from both of these genera by the distinct hairs on the upper side of the first joint of the antennæ.

The following may be considered as the characters of the present genus: Face in both sexes broad; the palpi in the male of extraordinary size, in the female much smaller, and in both sexes loosely recumbent upon the proboscis. Antennæ small; first joint hairy; second joint transverse; third joint extremely small, distinctly covered with hairs, and with a dorsal bristle. Thorax, scutellum and feet only with short and very scarce bristles. Abdomen with short hairs, without any longer bristles before the incisures. First joint of the hind tarsi without bristles, considerably longer than the second. Wings long and narrow; the posterior transverse vein somewhat close to the margin of the wing; the last segment of the fourth longitudinal vein without any flexure, but only a little curved, converging somewhat towards the third longitudinal vein and ending beyond the tip of the wing. The fifth segment of the abdomen of the male is rather narrow; the small sixth segment partially concealed under the former; the hypopygium short, stout, rather disengaged; its outer appendages are small lamellæ.

The genus *Diostracus* is so peculiar that more detailed statements are unnecessary to distinguish it from other genera. Its most striking character is the peculiar disk-like form of the palpi and their very considerable enlargement in the males.

The name of the genus (from δίς, twice, ὄστρακον, potsherd) has reference to this character.

1. D. prasinus **Loew.** **♂ and ♀.—Prasinus, subopacus, abdomine nigricante, pedibus flavis, maris tertio tarsorum anticorum articulo compresso et in margine supero pilis nigris barbato.**

Leek-green, somewhat dull, with a blackish abdomen and yellow feet; third joint of the fore tarsi of the male compressed and bearded on the upper margin with long hairs. Long. corp. 0.18—0.20. Long. al. 0.23—0.24.

Syn. *Diostracus prasinus* Loew, Neue Beitr. VIII, 44, 1.

Male. Face for a male very broad, metallic-green or blue-green, sometimes copper-colored, with a rather distinct transverse swelling, and by far not reaching the lower margin of the eyes; dusted with grayish-yellow. Palpi of unusual size, rather rounded, loosely recumbent upon the proboscis, yellow, covered on the upper side with a thick snow-white powder, and with a delicate, almost imperceptible, white pubescence. Proboscis for a male unusually large and stout, brown. The small antennæ brownish-yellow, most of the third joint brown, the dorsal arista blackish-brown, long and not very strong, with a short, but distinct pubescence. Front above broader, metallic-green or blue-green, seen obliquely, somewhat darker, without dust. Cilia of the upper orbit black, of the lateral and inferior orbits yellow. Upper side of the thorax of a saturate leek-green or parrot-green coloring and with very little lustre; on its anterior margin there is some gray-whitish pollen, which is interrupted by the anterior end of a not very striking and not far-reaching dark-colored middle stripe. The usual black bristles on the upper side of the thorax are few and short; there are no hairs upon it. If examined from behind, a stripe-like dark scarlet-brown spot, immediately above the root of the wing, may be noticed; on the posterior margin of the thorax there is also a more distinct covering of brown-grayish dust. Scutellum with the usual bristles, otherwise bare, somewhat short, usually of a more dusky color than the upper side of the thorax. Pleuræ with grayish dust upon blackish-green ground. The metathorax is of unusual length and slopes but very gradually, so that the length of the thorax, as compared with that of the abdomen, is unusually large. The color of the abdomen is dusky blackish-green and but little metallic; the hairs are short and only on the posterior margin of the first segment there are some black hairs of greater length. The black hypopygium is short and stout, sessile, but rather disengaged; its small outer appendages are lamelliform, blackish-brown and hairy. Fore coxæ long, pale yellow; on the front side they are beset with so short and delicate white little hairs that they appear glabrous; at their tip there are black bristles. Middle and hind coxæ yellow, often brownish as far as the tip, especially on the outside. Feet yellow, rather long; middle and hind femora very slender; fore femora considerably stronger; all the tibiæ on the under side very bare, otherwise beset with quite short little black hairs; fore tibiæ rather stout, somewhat compressed and curved inwardly, colored with brownish-black upon the latter half of the upper side and most of the hind side thickly bearded with long yellow hairs. Middle and hind tibiæ plain, beset only with few and weak bristles, infuscated at the end. Fore tarsi black, only at the basis of the first joint brown; the first joint only a little longer than the second; the second at the tip with a vestige of a slight compression; the third joint strongly compressed, broad, bearded on the upper edge with stiff black bristle-like hairs; the two last joints very short, and of the usual form. Middle tarsi somewhat longer than the tibiæ, the first joint about as long as the other three taken together, yellowish-brown with black tip; the last four joints are black and the middle tarsi on the hind side rather thickly covered with long hairs. Hind tarsi black, about as long as the tibiæ, of plain structure and not unusually hairy; the first three joints are of gradually diminishing length, the fourth about half as long as the third, and the fifth again somewhat longer than the fourth. The tegulæ have brown margins with yellowish cilia, which assume, in some directions, a brown tinge. Wings grayish hyaline, long and narrow with rather strong brownish-black veins; the first longitudinal vein reaches far beyond the third part of the anterior margin; second longitudinal vein straight; the third longitudinal vein at its end only very gently curved backwards; the posterior transverse vein lies far beyond the middle of the wing.

Female. Face broader than that of the male, with a more developed transverse swelling, and covered with dust of much more gray color. Palpi much smaller than those of the male, only about half as large, blackish with yellow-grayish dust, and with a considerable covering of pale brown hair, which in another direction appears to be entirely black. The sixth segment of the abdomen, although very short, still distinctly perceptible. The hairs on the anterior side of the fore coxæ longer and coarser, yellowish. Tibiæ and tarsi simple and with the usual short hairs; the joints of the fore tarsi gradually diminishing in length. The wings usually a little duller than those of the male.

Hab. New York. (Osten-Sacken.)

Gen. XIII. **ANEPSIUS.**

The genus *Anepsius* shows the closest relation to the genus *Systenus*, from which it differs only by the structure of the first joint of the antennæ. Its characters are the following: The first joint of the antennæ hairy on the upper side, the second transverse, the third rather large; the arista inserted on its upper side, quite near the basis. The abdomen of the male appears compressed from the side. Hypopygium short, not entirely imbedded; its outer appendages very small. The first joint of the hind tarsi without bristles. Wings not enlarged towards their basis; the last segment of the fourth longitudinal vein not inflected and parallel to the third vein.

The name of the genus (from ἀνεψιός, cousin) has reference to its intimate relationship with *Systenus*.

No species of *Anepsius* has yet been found besides those known from Europe.

Gen. XIV. **ARGYRA.**

The species of *Argyra* are easily distinguished by the dense silvery-white dust, which almost in all the species covers head and abdomen, in many also thorax and scutellum. The majority of the species of the genus *Leucostola* resemble in this respect those of *Argyra*, and differ from them only by the first joint of the antennæ of the former being entirely bare, while in the species of *Argyra* it is covered with hair on the upper side. The following are the most important characters of the genus *Argyra*: Second joint of the antennæ transverse; third in the male rather large, bare; the apparently bare and distinctly two-jointed arista is inserted close to the tip of the antenna. Wings broad, the posterior angle rather strongly projecting; the first longitudinal vein is rather more distant from the margin of the wing than in most of the other genera, and is longer than usual; the fourth longitudinal vein is inflected forward before the middle of its last segment, thence however it is quite parallel, or almost parallel, with the third longitudinal vein; the posterior transverse vein is not approximated to the margin of the wing. The first joint of the hind tarsi without bristles. Hypopygium small, imbedded; its outer appendages are two very small, narrow lamellæ directed downwards; the interior appendages are of rather simple structure and often not distinctly perceptible.

The name of the genus (from ἄργυρος, silver) has reference to the beautiful silvery lustre of most of the species.

The hitherto known species are distributed over Europe, a part of Asia and North America. I know seven North American species, of which the first has a hairy scutellum and therefore belongs to the relationship of the European *Argyra diaphana.* The other six species have no hairs upon the scutellum; the upper side of the first joint of the antennæ is, in some of them, so scarcely provided with hairs that they can easily be mistaken for species of *Leucostola.*

Table for the determination of the Species.

1	Scutellum hairy.	1 **albicans** *Lw.*
	Scutellum not hairy.	2
2	Feet mostly black.	3
	Feet entirely or mostly yellow.	4
3	The entire fore tibiæ and a part of the four posterior tibiæ yellow.	2 **nigripes**, nov. sp.
	All the tibiæ entirely and the root of the fore tarsi yellow.	3 **albiventris**, nov. sp.
4	The whole feet yellow.	5
	Not the whole feet yellow.	6
5	The first joint of the hind tarsi only with the usual very short hairs.	4 **minuta** *Lw.*
	The first joint of the hind tarsi with longer hairs than usual.	5 **calcitrans** *Lw.*
6	Tip of the hind femora not black.	6 **calceata** *Lw.*
	Tip of the hind femora black.	7 **cylindrica**, nov. sp.

Systematical arrangement of the Species.

I. Scutellum distinctly hairy.

- 1. **albicans** *Lw.*

II. Scutellum without hairs.

A. Abdomen somewhat conical, white, glittering.

- 2. **nigripes**, nov. sp.
- 3. **albiventris**, nov. sp.
- 4. **minuta** *Lw.*
- 5. **calcitrans** *Lw.*
- 6. **calceata** *Lw.*

B. Abdomen entirely cylindrical, without white glitter.

- 7. **cylindrica**, nov. sp.

Description of the Species.

I. SCUTELLUM DISTINCTLY HAIRY.

1. A. albicans LOEW. ♂ and ♀.—Scutello piloso, tibiarum posticarum apice tarsisque posticis nigris.

Scutellum hairy, tip of the hind tibiæ and the hind tarsi black. Long. corp. 0.23—0.24. Long. al. 0.23—0.24.

SYN. *Argyra albicans* LOEW, Neue Beitr. VIII, 45, 1.

Male. Covered all over with glittering, silvery-white dust. Face and front of middle breadth, silvery-white. Palpi black. Proboscis brownish-black. Antennæ black, the third joint more brown-black; arista distinctly inserted before its end. Cilia of the superior orbit black, the hair-like cilia of the lateral and inferior orbits snow-white. Upper side of the thorax and scutellum shining green, still so that the silvery-white dust seems to cover the ground color, even if looked upon from different sides. The scutellum has upon its upper side, besides the usual bristles, some very distinct little black hairs. Ground color of the abdomen greenish-black, the second and third segments have very large, rounded, transparent yellow lateral spots; otherwise, the whole abdomen is also covered with thick silvery-white dust; its hairs are almost exclusively black. The small and narrow lamellæ of the hypopygium are brownish-yellow with black tip and with a black pubescence. Fore coxæ yellowish with white dust and with black bristles and little hairs. Middle and hind coxæ black with white dust; their hairs and bristles black. Feet yellow with black hairs; upon the under side of the fore and middle femora are inserted black hairs of greater length than those on the under side of the hind femora, which are brownish-black at the tip. Tibiæ moderately provided with bristles, the hind tibiæ blackened at the tip. Fore tarsi towards the end only slightly infuscated; the first joint is at least 1½ the length of the four following joints together, upon the under side with a row of delicate, but rather long little hairs, which may be easily overlooked. Middle tarsi from the tip of the first joint blackish-brown; however, the root of the next following joints somewhat paler; the first joint is at least by one-third longer, than the following four joints together. Hind tarsi entirely black, first and second joint of about the same length, the following of a decreasing length. Cilia of the tegulæ, which have a black margin, yellowish-white. Wings somewhat grayish with blackish-brown veins; the last segment of the fourth longitudinal vein is strongly bent forward before its middle.

Female. Face broader than that of the male, and the palpi much larger, the latter with a distinct covering of white dust. The third joint of the antennæ, as usual, much smaller than that of the male. The dust upon the thorax and the scutellum less thick, so that the green ground-color is distinctly visible in every direction. The ground-color of the abdomen is shining and metallic-green, the dust upon it is confined to the anterior half of the segments, extending only upon the last segment as far as the posterior margin; the yellow spots of the second segment are about of the same size and nature as those of the male, those of the third segment occupy only the anterior corners and are much smaller. The hairs upon the under side of all the femora are short and the hind femora are very slightly infuscated at the tip only. All the rest as in the male.

Hab. District Columbia. (Osten-Sacken.)

Observation 1.—Notwithstanding the difference in the coloring of the hind femora, the female agrees with the above described male so much, that I cannot have the least doubt of its being the other sex of *Argyra albicans.*

Observation 2.—*Argyra albicans* can easily be distinguished from the European *Argyra diaphana* by its somewhat smaller size, the paler color of its fore coxæ and of the cilia of the tegulæ. Nevertheless it resembles it very much. As Fabricius, in his *Systema Antliatorum,* states America to be the home of his *Musca diaphana,* it might well be supposed that he meant *Argyra albi-*

cans or some similar American species, and that Meigen was mistaken when he believed it to be identical with the common European species. Such a supposition, however, would be erroneous. Fabricius in his older works (of which at present I cannot compare only the *Mantissa II*), mentions everywhere Europe as the *habitat*. The statement of the *Systema Antliatorum* is, therefore, either a mere mistake, or *Fabricius* confounded later an American species with the European one. Even in the latter case the name cannot be transferred upon the American species. The first, however, seems to be more probable, because Fabricius in the *Systema Antliatorum*, quotes his former works without the least hesitation, and declares that America is the habitat of this species, without mentioning at all that he is thus in contradiction with his own previous statement.

II. Scutellum without hairs.

A. Abdomen somewhat conical, glittering with white.

2. A. nigripes, n. sp. ♂.—Ex viridi læte chalybea, abdomine albomicante, fronte et facie atris, velutinis, pedibus nigris, tibiis anticis totis, reliquis ex parte flavicantibus.

Green-blue, with the abdomen glittering white; front and face velvet-black; feet black, the fore tibiæ entirely and the four posterior tibiæ partially yellowish. Long. corp. 0.17—0.18. Long. al. 0.17.

Green-blue. Front and face velvet-black, without pale dust. Palpi and proboscis black. The first joint of the antennæ with a comparatively long and close pubescence. Upper side of the thorax and of the scutellum shining; the latter, as far as perceptible, without hair. Abdomen without transparent yellow spots upon the anterior segments, and with a thick glittering-white dust, which becomes thinner only towards the basis of the abdomen. The small lamellæ of the hypopygium are brownish-black. Coxæ black; fore coxæ with coarse black hairs. Femora brownish-black, the extreme tip of the four anterior ones yellow; they have only short hairs and short bristles. Fore tibiæ yellow, on the upper side with less numerous, but stronger hair-like bristles, on the hind side with more numerous but more slender hair-like bristles of considerable length. Middle tibiæ upon the whole upper side yellowish, upon the under side blackish-brown; they have upon the under side, upon the middle of the anterior side and upon the first half of the upper side rather strong bristles. Hind tibiæ at the root and almost upon the whole second half black, otherwise brownish-yellow and not incrassated. Fore tarsi yellow, somewhat infuscated towards their end, of plain structure, only the first joint upon the under side provided with a few bristles. Middle tarsi brownish-yellow at the basis, further brownish-black; the first joint has upon the first half of its under side rather numerous black bristles. Hind tarsi black, plain. Cilia of the tegulæ black. Wings hyaline, only a little tinged with gray.

Hab. Sitka. (Sahlberg.)

Observation.—Of this and of the next following species, as also of *Argyra cylindrica*, I possess only single specimens, damaged by mould, which crumbled to pieces in the attempt of cleaning; however, as these three interesting species come from a country which is so little explored with regard to Dipterology, and as the important specific characters could be determined, I did not hesitate to describe them. I must, however, request not to attach more weight to my statements about color, diffusion of the white tomentum upon abdomen and thorax, and about the appendages of the hypopygium, than the circumstances should warrant.

3. A. albiventris, n. sp. ♂.—Viridis, nitens, abdomine albomicante, fronte et facie nigris, albido-pollinosis, pedibus nigris, tibiis omnibus totis tarsorumque anticorum basi flavicantibus.

Green, shining, abdomen white, glittering; front and face blackish, but with whitish dust; the whole tibiæ and the root of the fore tarsi yellowish. Long. corp. 0.18—0.19. Long. al. 0.18.

Metallic-green. Front and face appear, when looked upon in most directions, almost whitish-gray on account of the dust which covers them, but are black. Palpi and proboscis black. Antennæ smaller than those of *Argyra nigripes;* the first joint is comparatively short and sparsely beset on the upper side with rather short hairs. Thorax and scutellum shining metallic-green; but when looked upon from the front, the covering of white dust becomes distinctly visible. Scutellum without hairs. Abdomen covered with a thick dust having a white lustre; its second and third segments have, on the lateral margin, a large yellow transparent spot. Venter mostly yellowish. The small lamellæ of the hypopygium are brownish-black. Coxæ black; fore coxæ with long black hairs. Femora brownish-black with yellow tip; their black hairs are comparatively long, especially upon the under side of the four anterior femora. Tibiæ yellow, only the extreme tip of the hind tibiæ blackish-brown; the fore tibiæ are beset with four or five bristles only upon the upper side; the small bristles upon the middle and hind tibiæ are likewise but short and very scarce; the hind tibiæ are not in the least thickened. The four anterior tarsi are brownish-yellow at the basis, a little further blackish-brown, of plain structure, the first joint upon the under side without bristles. Hind tarsi entirely black. Tegulæ mostly black with black cilia. Wings hyaline, a little more distinctly tinged with gray than in *A. nigripes.*

Hab. Sitka. (Sahlberg.)

4. A. minuta Loew. ♂.—Scutello nudo, pedibus totis pallide flavicantibus, metatarso maris postico simplici, brevissime piloso.

Scutellum bare; the whole feet pale-yellowish; the first joint of the hind tarsi of the male simple, with very short hair. Long. corp. 0.16. Long. al. 0.14—0.15.

Syn. *Argyra minuta* Loew, Neue Beitr. VIII, 46, 2.

Male. Face very narrow, silvery-white. Palpi black. Proboscis brownish-black. Antennæ black, third joint more blackish-brown; arista distinctly inserted before its tip. Front silvery-white. Cilia on the upper orbit black, very short and delicate; cilia of the lateral and inferior orbits white. Thorax and scutellum shining green, covered with white, not very thick dust, which conceals the ground color at the utmost only in the vicinity of the shoulders. Scutellum, with the exception of the usual bristles, bare. The ground color of the abdomen appears to be blackish-green, is however so thickly covered with white dust that it cannot be distinctly perceived; the second segment of the abdomen has on each side a very large rounded yellow lateral spot; the third segment has a similar spot, but smaller. The very small and narrow lamellæ of the hypopygium are yellowish-brown and but little hairy. Fore coxæ yellowish-white, with white hairs and black bristles. Middle and hind coxæ also yellowish-white, but blackened from the basis to a considerable extent; hairs and bristles black; feet pale-yellowish, only the end of the hind femora has a vestige of infuscation on its upper side. The hairs upon the feet are not entirely black; the fore femora have upon the hind side more, the hind femora on the under side less numerous blackish hairs of greater length. Fore tarsi not infuscated; the first joint has scarcely 1¼ the length of the four following joints put together. Only the last joint of the middle tarsi is somewhat infuscated. The first joint is fully as long as the others together. The last joint of the hind tarsi is brown; the first joint is of simple structure and beset with the usual short hairs, scarcely a little longer than the second, but considerably thicker. Cilia of the tegulæ yellowish-white. Wings hyaline, scarcely a little tinged with yellowish-gray, with brownish-yellow veins; the last segment of the fourth vein is very abruptly bent forward before its middle.

Hab. District Columbia. (Osten-Sacken.)

5. A. calcitrans Loew. ♂.—Scutello nudo, pedibus totis pallide flavicantibus, metatarso postico maris paulo incrassato et valde hirto.

Scutellum bare; the whole feet pale-yellowish; the first joint of the hind tarsi of the male somewhat thickened and covered with rough hair. Long. corp. 0.14—0.15. Long. al. 0.11.

Syn. *Argyra calcitrans* Loew, Neue Beitr. VIII, 46, 3.

Male. Face narrow, silvery-white. Thorax and proboscis black. Antennæ black, third joint more blackish-brown; arista distinctly inserted before its end. Front silvery-white. Cilia of the upper orbit black, very short and delicate; cilia of the inferior and lateral orbits white. Thorax shining green, covered with thick white dust, so as to make the ground color invisible in some directions. Scutellum also shining green, or blue-green, with less dust, and bare with the exception of the usual bristles. The ground color of the abdomen seems to be blackish-blue, but cannot be distinctly seen on account of the thick white dust which covers it; the second segment is yellowish and transparent, with a blackish border on the posterior margin and with a blackish middle line, which is sometimes wanting; the third segment is of a similar color, only the margin on the posterior border and the middle line are broader, though the latter is sometimes interrupted. The small lamellæ of the hypopygium are brown. Coxæ and feet white-yellowish; fore coxæ with delicate white little hairs and delicate black bristles; middle coxæ on the outside with a blackish spot; hind coxæ scarcely a little blackened on the extreme basis. Fore and middle femora without any longer hairs on the under side; the hind femora have a row of black bristle-like hairs, inserted rather more on their hind side than upon the under side. Tarsi towards their end not infuscated, but only very little darker; the first joint of the fore tarsi is $1\frac{1}{3}$ the length of all the following joints taken together, on the under side with a row of delicate hairs; the first joint of the middle tarsi not quite as long as all the other joints together; hind tarsi unusually short, the first joint not much shorter than all the others, a little thickened, on the under side with rather long bristle-like hairs; the second and third joints of the hind tarsi of about equal length. The cilia of the tegulæ, which have a blackish margin, are white-yellowish. Wings somewhat tinged with yellowish-gray, with yellowish-brown veins; the last segment of the fourth longitudinal vein is but gently inflected forward.

Hab. New York. (Osten-Sacken.)

6. A. calceata Loew. ♀.—Scutello nudo, pedibus pallide flavis, tarsis posticis nigris.

Scutellum bare, feet pale-yellow, with black hind tarsi. Long. corp. 0.16. Long. al. 0.15.

Syn. *Argyra calceata* Loew, Neue Beitr. VIII, 47, 4.

Female. Face, for a female, of moderate breadth, silvery-white. Palpi rather large, black, with almost silvery-white dust; proboscis brownish-black. Antennæ black; third joint small, with an acute angular tip; arista distinctly inserted before its end. Cilia on the upper orbit black, extremely short and delicate. Cilia of the lateral and inferior orbits white. Thorax shining green, in the vicinity of the shoulders rather thickly covered with white dust, so as to induce the belief that the males are altogether covered with silvery-white dust. Scutellum also shining green and with the exception of the usual bristles, bare. Ground color of the abdomen greenish-black; the second, third and fourth segments yellow, with the exception of the extreme anterior margin, the posterior margin and a narrow, not always distinct middle line; on the sides of the segments and towards the tip of the abdomen there is some white dust. Coxæ and feet pale-yellowish; fore coxæ with delicate whitish hair and with black bristles; middle coxæ with a gray spot on the outside; hind femora scarcely a little darker at the tip, hind tibiæ at the tip not of a dark color.

Tarsi comparatively long; fore tarsi scarcely infuscated towards the end, only the last joint brown, the first joint a little longer than the others taken together. Middle tarsi from the tip of the first joint strongly infuscated; the four last joints together as long as the first one. Hind tarsi entirely black, the first joint a little shorter than the second, the following joints decreasing in length. The cilia of the tegulæ, which have a blackish border, are pale. Wings tinged more with brownish than yellowish-gray; veins rather dark brown; the last segment of the fourth longitudinal vein, before its middle, only slightly inflected forward.

Hab. Middle States. (Osten-Sacken.)

Observation.—It is impossible to mistake *A. calceata* for the female of one of the two preceding species for the following reasons:—

1. On account of the greater extent of yellow color upon the abdomen, which is not so extensive in the females of the species of *Argyra* as in the males.

2. On account of the black coloring of the whole hind tarsi. It is probable that the coloring of the abdomen of the male of this species resembles that of the male of *Leucostola cingulata.*

B. Abdomen entirely cylindrical, without white lustre.

7. A. cylindrica, n. sp. ♂.—Viridis, nitens, abdomine vix obsoletissime albido pollinoso, coxis anticis pedibusque flavis, femorum posticorum apice, summo tibiarum posticarum apice, tarsis denique omnibus inde ab articuli primi apice nigris.

Shining-green, the abdomen has scarcely a trace of whitish dust; fore coxæ and feet yellow; tip of the hind femora, tip of the hind tibiæ and all tarsi, with the exception of their root, black. Long. corp. 0.23. Long. al. 0.22.

Metallic-green, and differing from most of the species of *Argyra* by the cylindrical form of the abdomen and the almost entire absence of all dust. Face with a white reflection. Palpi and proboscis brownish-black; the hair-like cilia of the inferior orbit pale-yellowish. Thorax and scutellum shining, the latter without hairs. Abdomen entirely cylindrical, not stouter about the basis, metallic-green, without any transparent spots upon the anterior segments and covered with a thin, almost imperceptible, grayish-white dust. Fore coxæ yellowish, with some very scattered black hairs, and, at the tip, with longer black bristles.

Middle and hind coxæ blackish-brown with yellowish tip. Feet yellowish, tip of the hind femora brownish-black to a considerable extent. The black hairs on the feet are somewhat sparse and only of middle length; on the under side of the fore femora there are but a few black hairs of greater length; upon the under side of the middle femora they are in greater number; on the under side of the hind femora only those hairs which are near the tip have a somewhat greater length. Fore tibiæ with somewhat longer hairs on the under side, on the upper side with but two or three bristle-like hairs of greater length. The middle and hind tibiæ with but few and very short little bristles; the extreme tip of the latter is infuscated. (Fore tarsi wanting.) Middle tarsi plain, black from the tip of the first joint; the first joint somewhat longer than the four following together; on the under side with but two very short black little bristles; hind tarsi black; the first joint up to the middle brownish-yellow. Tegulæ with a broad black margin, with pale-yellowish cilia. Wings hyaline, somewhat tinged with brown, the anal angle less protruding than in most of the other species; the neuration shows nothing unusual for the genus.

Hab. Sitka. (Sahlberg.)

Observation.—Although the imperfect state of the above described specimen did not afford a thorough examination of the hairs upon the upper side of the first joint of the antennæ, still I believe to have satisfied myself of their existence.

Gen. XV. SYNTORMON.

The generic character is as follows: First joint of the antennæ with hairs on the upper side; the second reaching on the inner side of the third in the shape of a thumb; third joint of the antennæ elongated and pointed in the male and shorter in the female; the position of the arista apical. Scutellum bare. The first joint of the hind tarsi without bristles and a little shorter than the second. The hypopygium small and imbedded, with very small, often not distinctly perceptible appendages.

The next related genus is *Synarthrus*, the species of which differ from the species of *Syntormon* only by the absence of hair upon the first joint of the antennæ. Although this character may appear trifling to those who have not studied the family of the

Dolichopodidæ carefully, nevertheless its observation is important, as it is of very great service for the specific distinction as well as for the generic location of such females of different species which resemble each other very closely.

The name of the genus (from *συντορμόω*, I connect by inserted pins) has reference to the characteristic formation of the second joint of the antennæ.

As yet only European species of *Syntormon* have become known.

Gen. XVI. **SYNARTHRUS.**

The following are the most important characters of this genus: The first joint of the antennæ without hairs; the second reaching more or less on the inner side of the third, usually forming in the males a thumb-like projection, and in the females a more rounded lobe; the third joint of the antennæ in the males elongated and pointed; arista apical or so near the extreme tip of the antennæ, as to be taken for such. Scutellum usually bare, first joint of the hind tarsi without bristles. The hypopygium small, imbedded, with very small, often not distinctly perceptible appendages.

That *Synarthrus* differs from *Syntormon* only by the absence of hair upon the first joint of the antennæ, has already been stated.

Of the three species described below, two undoubtedly belong to the genus *Synarthrus*. This cannot be said with regard to the third species, *Synarthrus barbatus*. Its position in the genus *Synarthrus* can only be a temporary one, brought about by the difficulties of placing it into another genus. It is sufficiently distinguished from the other species of *Synarthrus* by the peculiarity alone, that the second joint of the antennæ encroaches only very little on the inner side of the third. In its general appearance it approaches the species of *Porphyrops* very closely, so that I leave it undecided whether it would not be better located there. The size of the pulvilli of the fore tarsi betrays a relationship with *Eutarsus* and *Diaphorus*, the structure of the antennæ, however, does not allow its location in these two genera. To erect a new genus does not seem advisable, as the species shows close relationship in various directions.

The name *Synarthrus* (from *σύν*, together, and *ἄρϑρον*, joint) has reference to the peculiar mode of connection between the second and the third joints of the antennæ.

The species already known belong to Europe and to North America.

Table for the determination of the Species.

1	Posterior margin of the pleuræ yellow.	1 **palmaris**, nov. sp.
	Posterior margin of the pleuræ not yellow.	2
2	Hind femora yellow.	2 **cinereiventris** *Lw.*
	Hind femora green.	3 **barbatus** *Lw.*

Systematical arrangement of the Species.

I. Lower half of the occiput only with the usual cilia.

1. **palmaris**, nov. sp. 2. **cinereiventris** *Lw.*

II. Lower half of the occiput with a strong beard.

3. **barbatus** *Lw.*

Description of the Species.

I. LOWER HALF OF THE OCCIPUT ONLY WITH THE USUAL CILIA.

1. S. palmaris, n. sp. ♂ and ♀.—Viridis, pleurarum margine postico, coxis, pedibusque flavis.
♂. Tarsis intermediis apicem versus dilatatis.
♀. Tarsis simplicibus.

Green, the posterior margin of the pleuræ, coxæ and feet yellow.
♂. The middle tarsi towards their end enlarged.
♀. Tarsi simple. Long. corp. 0.13. Long. al. 0.14.

Male. It can be easily recognized by its striking resemblance to the European *Syntormon tarsatus* Fall. Rather dark bronze-green, little shining; the abdomen usually rather copper-colored. Antennæ black; first joint on the upper side entirely bare; the second with a long thumb-like projection which overlaps the inner side of the third; third joint rather long, pointed, very bubescent; the arista has not precisely an apical but a somewhat subapical position, as it is the case with *Syntormon tarsatus.* Face covered with whitish dust, narrow. Palpi and proboscis black. Front steel-blue. The delicate cilia on the inferior and lateral orbits pale. Scutellum of the same color as the upper side of the thorax, and beset, besides the usual bristles, with a few short hairs. Pleuræ grayish-green, their posterior margin yellowish. The sides of the abdomen near its basis somewhat yellowish and transparent; on the posterior margin of its first segment there are long black bristles, on the posterior margin of the other segments there are only very short bristles. Venter as far as the tip yellowish. Hypopygium rounded, small, rather imbedded; its blackish appendages very short and therefore not distinctly perceptible. Coxæ and feet yellowish; fore coxæ only at the tip with a few black bristles, otherwise in front with short and very delicate white hairs. The short hairs upon the feet are black; under side of the fore femora glabrous; middle femora upon the under side with a row of short black bristles. Fore tibiæ on the upper side with a dense row of black hairs, upon the first quarter of the hind side with a single very small black bristle. Middle and hind tibiæ only with a few short black bristles; the end of the latter is somewhat thickened and of a brownish-black color. Fore tarsi plain, from the tip of the first joint blackened; the first joint not quite as long as the other four taken together. The first joint of the middle tarsi nearly as long as the other four taken together, stalk-like, a little thicker at the end and of a whitish color; the second joint very much flattened, whitish, the apical margin bordered with black; the third and fourth joints also flattened, and, with the fifth joint, which is not flat, of a deep black color. Hind tarsi as far as the middle of the second joint brown, then black; the first joint is a little stouter and shorter than the second and has upon the middle of its under side a black bristle which is a little curved backwards. Wings hyaline, tinged with brownish-gray; the third and fourth longitudinal veins show towards their end a slight convergency.

Female. The third joint of the antennæ rounded-oval, very much shorter than in the male; the second joint of the antennæ overreaches the inner side of the third only by a rounded lobe. Face less dusty than in the male, very broad, by far not reaching the lower corner of the eye; its lower part is very convex and protrudes in the shape of a roof, whereby the mouth becomes very large. The black palpi considerably larger than in the male. Feet plain, the hind tibiæ not thickened at the end and only very slightly infuscated. Fore tarsi from the tip of the first joint gradually becoming more infuscated; middle tarsi from the tip of the first joint blackened, though the root of the second joint is somewhat paler; hind tarsi at the root brown, black towards the end. The little black bristles upon the under side of the middle femora are missing. The rest as in the male.

Hab. Sitka. (Sahlberg.)

Observation.—*Syntormon tarsatus* has upon the upper side of the first joint of the antennæ, quite in the vicinity of the basis, a few almost imperceptible little hairs, which I am unable to perceive in the present species, so that I am compelled to locate it into the genus *Synarthrus.* It is further distinguished from *Syntormon tarsatus* by the shorter arista and by the broader wings, which are less narrow towards the root. Besides, in the male the tip of the hind tibiæ is less thickened, the second joint of the middle tarsi is broader, of a whitish color, and has only at its tip a black margin, while in the male of *Syntormon tarsatus* it is less broad, yellowish upon the middle of the root and black upon the whole apical half. The relation which exists between *Synarthrus palmaris* and *Syntormon tarsatus* is exactly the same as that between *Synarthrus pallipes* and *Syntormon Zelleri.*

2. S. cinereiventris Loew. ♀.—Viridis, coxis anticis pedibusque flavis.

Green, fore coxæ and feet yellow. Long. corp. 0.13. Long. al. 0.13.

Syn. *Synarthrus cinereiventris* Loew, Neue Beitr. VIII, 48, 1.

Female. Shining metallic-green. Face very broad; the inferior portion protrudes considerable in the shape of a roof, so that the palpi are rather concealed and the mouth becomes unusually large; the blue-green ground color of the face is rather covered by a gray-whitish powder. Antennæ black, rather large for a female; the second joint overreaches the inner side of the third with a broad lobe; the third joint is short, but very broad, beset with very short but distinct hair; the arista is distinctly longer than the antennæ. The front in the middle is almost blackish-green, about the antennæ steel-blue, on the upper corners rather violet and may possibly vary a little in its coloring. Cilia of the upper orbit black, those of the lateral and inferior orbits white. Thorax shining metallic-green, with very thin and almost imperceptible, nearly whitish, dust. Abdomen also shining metallic-green, on the lateral margin with but little perceptible whitish powder. Venter whitish-gray. Fore coxæ yellow, with delicate whitish hair and no black hairs or bristles. Middle and hind coxæ blackish with yellow tip, the former green on the front side, and, like the fore coxæ, beset with delicate whitish little hairs. Feet yellow; tarsi gradually dark brown towards their end, but so that the first joint, with the exception of its tip, is dark yellow, and the second joint, with the exception of its tip, is brownish-yellow. The hind tarsi are visibly shorter than the hind tibiæ, and the first joint is longer than the second. The yellowish tegulæ have a narrow dark-brown margin and yellowish cilia, which in some directions assume a very dark color. Halteres yellowish. Wings grayish; the last segment of the fourth longitudinal vein not distinctly inflected; posterior transverse vein steep.

Hab. Middle States. (Osten-Sacken.)

II. LOWER PART OF THE OCCIPUT WITH A STRONG BEARD.

3. S. barbatus LOEW. ♂.—Viridis, pedibus flavis, femoribus posticis viridibus.

Green, feet yellow, hind femora green. Long. corp. 0.12—0.13. Long. al. 0.12.

SYN. *Synarthrus barbatus* LOEW, Neue Beitr. VIII, 48, 2.

Shining metallic-green. Face green, and dull on account of a moderately thick yellowish-white dust, which however does not conceal the ground color. Palpi a little larger than those of the males of *Synarthrus* in general; they have also a more disengaged position, a bright yellow color, and are beset with a few black little hairs. Antennæ black; the second joint reaching only a little on the inside of the third, almost of transverse form; the rather strikingly hairy third joint is broad only about the basis and becomes elongated into a narrow and very long point; the arista is entirely apical and only half the length of the third joint. Front metallic-green, little shining. Cilia of the upper orbit black, short and delicate; cilia of the lateral and inferior orbits very long, white; they form with the hair on the lower part of the occiput a striking beard. Thorax and scutellum metallic-green, the former less shining on account of a cover of pale dust, the latter sometimes more bluish-green. Abdomen metallic-green. The last segments assume in some directions a rather black-green color. The small imbedded hypopygium black; its outer appendages have the form of small lamellæ and are of a brownish color; the inner appendages are not distinctly perceptible. Fore coxæ blackish, on the front side greenish-blue; their delicate hairs are principally white, but towards the basis of the coxæ there are also some black hairs; on the tip are black bristles. Middle and hind coxæ black; the former with black hairs and bristles. Fore feet yellow; femora incrassated towards their basis, on the upper side with a narrow brownish-black longitudinal stripe, reaching to the extreme tip; the under side is sparsely fringed with short black hairs, and where these end, there are three black bristles turned somewhat backwards. Fore tibiæ covered with thick, rather coarse, but short hairs. Fore tarsi from the tip of the first joint, which is about as long as the others, strongly infuscated. The first and second joints beset on the under side with short bristle-like hairs; pulvilli rather large. Middle feet yellow; femora thickened about their basis; the tibiæ have besides the bristle at the tip only one on the upper side, not far from the basis; the tarsi are very much infuscated from the tip of the second joint. Hind femora metallic-green with yellow tip, at the end of the under side with a few black bristles. Hind tibiæ yellow, only sparsely bristled. Hind tarsi yellow at the basis, from the tip of the first joint black-brown; their joints decrease in length, the first considerably longer than the second. The cilia of the whitish tegulæ show in most directions a brownish-black coloring, while in some they appear with a yellowish lustre. Halteres yellowish. Wings grayish hyaline with brownish-black veins; the posterior transverse vein is straight and has a very steep position; the last segment of the fourth longitudinal vein shows upon its first third an almost imperceptible flexure, otherwise it very little approaches the third longitudinal vein, runs parallel with it and terminates precisely in the apex of the wing.

Hab. Middle States. (Osten-Sacken.)

Gen. XVII. **SYSTENUS.**

This genus, hitherto confined to European species only, may be characterized in the following manner: First joint of the antennæ without hairs on the upper side; the second joint transverse; the third large, longer in the male than in the female, in both sexes broad at the basis, ending into a point, distinctly hairy; arista completely apical. Feet rather slender, in both sexes plain and beset only with very few and short bristles. The first joint of the hind tarsi without bristles and scarcely half the length of the second. The sixth longitudinal vein of the wings distinct. The abdomen of the male towards the tip and laterally much compressed, its last segment narrow. The basal portion of the entirely disengaged and inflected hypopygium forms a long peduncle; the outer appendages are rather filiform and whitish, the inner appendages also. The last segment of the fourth longitudinal vein with more or less flexure.

The name of the genus (from σύν, together, and στενός, narrow) has reference to the very pointed shape of the third joint of the antennæ, which is peculiar to both sexes.

Gen. XVIII. **RHAPHIUM.**

The first joint of the antennæ has no hairs on the upper side; the second is transverse; the third glabrous, very narrow, in both sexes very much elongated, though in the male more so than in the female. Arista entirely apical, bare; its first joint somewhat elongated in the male. Scutellum glabrous. Hypopygium small, rounded, rather imbedded; its outer appendages more filiform than lamelliform; the inner appendages small; the first joint of the hind tarsi without bristles.

The genus *Rhaphium* stands in next relation to the genera *Porphyrops* and *Xiphandrium.* With the species of *Porphyrops* it shares the larger size, the greater number of bristles on the feet, the broader wings, less narrow towards the basis. With the species of *Xiphandrium* it has in common the great elongation of the second joint of the antennæ, the lesser density of hair on the occiput, and the shorter hair upon the coxæ and feet, also that the last segment of the fourth longitudinal vein is less inflected. From both these genera, however, *Rhaphium* is distinguished by the somewhat longer first joint of the antennæ, which, particularly in the male, is rather swollen; by the great narrowness and the glabrousness of the third joint, which is uncommonly elongated not only in the male but also in the female; by the glabrousness of the arista, and finally, by the more narrow and more pointed palpi of the female. The other genera most closely approaching *Rhaphium*, as *Systenus*, *Synarthrus* and *Smiliotus*, cannot be easily confounded with it, the hypopygium of the male in the species of *Systenus* being very much pedunculated, the second joint of the antennæ in the species of *Synarthrus* reaching over the third, and the abdomen in *Smiliotus* having only five segments.

The name of the genus (from ῥάφιον, small needle) has reference to the shape of the antennæ, which distinguishes it.

Only a single European and one North American species, described below, are known at present.

1. R. lugubre Loew. ♀.—Ex viridi nigrum, nitens, pedibus nigris, anteriorum tibiis intermediorumque femoribus luteis.

Greenish-black, shining; feet black; the four anterior tibiæ and the middle femora dusky yellow. Long. corp. 0.16. Long. al. 0.16.

Syn. *Rhaphium lugubre* Loew, Neue Beitr. VIII, 49, 1.

Of a bright metallic, but very dark greenish-black color. Face moderately broad, with a bright lustre of silvery-white powder upon black ground. Palpi black with white powder. The black antennæ very long, narrow and glabrous; the apical bristle short and bare. Front shining black. Cilia of the upper orbit black, delicate, short; cilia of the lateral and inferior orbits white. Thorax bright, with an almost imperceptible gray-whitish dust. The scutellum has no hair with the exception of the usual bristles. Abdomen bright, only on the lateral margin with distinct white powder; the hair upon it is black. Coxæ black with white dust; the front side of the fore coxæ with white hair and black bristles. Anterior femora black with luteous tip; fore tibiæ luteous, only with two bristles on the upper side; fore tarsi black, the first joint as far as the tip, luteous. Middle feet luteous, tarsi from the tip of the first joint blackened. Hind feet entirely black, only the knees yellow; the first joint of the tarsi scarcely a little longer than the second. Cilia of the brown tegulæ whitish. Wings blackish, on the fore margin and along the veins darker; the last segment of the fourth longitudinal vein only in the middle gently inflected forward.

Hab. Carolina.

Gen. XIX. **XIPHANDRIUM.**

The genus *Xiphandrium* comprises small species, of slender form, with little hair. The first joint of the antennæ has no hair on the upper side; the second is of a transverse form, the third rather narrow, in the male very much elongated and in the female much shorter; the hairs upon it are distinct, especially on the under side. Arista entirely apical, comparatively short, with scarcely perceptible short pubescence. The lower part of the occiput only with the usual fringe of cilia. Scutellum without hair. Coxæ and feet comparatively bare, the latter with very few bristles; the first joint of the hind tarsi without bristles. Wings not very broad, somewhat narrowed towards the basis; the last segment of the fourth longitudinal vein little inflected; hypopygium small, rounded, rather imbedded, its outer appendages more filiform than lamelliform; the inner appendages small.

The next related genera are *Rhaphium* and *Porphyrops.* The characters of the genus *Rhaphium* have already been described. The species of *Xiphandrium* differ from the species of *Porphyrops* by their smaller size, more slender form, less hair, especially on the lower part of the occiput and on the coxæ; the third joint of the antennæ of the males is more elongated, more distinctly hairy, particularly on the whole lower side; the arista is beset with a comparatively short but easily perceptible pubescence; the wings are less broad and towards their basis still narrower. It cannot be mistaken for the genera *Systenus*, *Synarthrus* and *Smiliotus*, as they differ from *Xiphandrium* and *Rhaphium* by the same distinctive marks.

The name (from ξίφος, sword, and ἀνήρ, man) has been given to this genus on account of the sword-shaped antennæ of the male.

Out of Europe, no species of *Xiphandrium* are as yet known. I have a female from North America, which probably belongs to this genus. As it has lost its antennæ, its systematical location could not be ascertained.

Gen. XX. PORPHYROPS.

The genus *Porphyrops* comprises species of at least middle size, rather stout shape and very hairy. The first joint of the antennæ has no hairs on the upper side; the second is transverse; the third is moderately elongated in the male and shorter in the female; the hairs upon it are very short and the whole under side (with the exception of a few species) is entirely bare. Arista altogether apical with an almost imperceptible and very short pubescence. The under side of the occiput more or less densely fringed. Scutellum without hairs. Coxæ and feet with rather much hair and bristles. First joint of the hind tarsi without bristles. Wings comparatively broad, towards the basis only a little narrower; the last segment of the fourth longitudinal vein moderately inflected. Hypopygium small, rounded, rather imbedded, its outer appendages almost in all the species more filiform than lamelliform; the outer appendages small.

With regard to the mutual relation of the three kindred genera, namely, *Rhaphium*, *Xiphandrium* and *Porphyrops*, all the required information has already been furnished, so that a repetition of their distinctions is not necessary. I have vindicated the name of *Porphyrops* for this genus in the fifth volume of the Neue Beiträge. An entirely unfounded opposition had been raised against it. The following are the reasons by which I have been governed with relation to the name *Porphyrops*. Meigen, in the fourth volume of his works, has taken a wider view of the genus *Porphyrops* and divided it into three sections: 1. With a subapical arista. 2. With an apical arista; and, 3. With an arista inserted dorsally on the third joint, near the basis. In his seventh volume he adopts the genus *Argyra*, which M. Macquart had in the meantime established for the first of the three divisions; the third division he unites with *Medeterus;* and for the only remaining second division, which principally contains species of the present genus, he retains the name of *Porphyrops;* at the same time he unites with them the species of his genus *Rhaphium* (that is the genera *Rhaphium* and *Xiphandrium* in the sense adopted above). As I cannot agree with this reunion, I am compelled to retain the name of *Porphyrops* for the genus, which embraces most of the species contained in Meigen's second division and this is the present genus.

The name *Porphyrops* (from πορφύρα, scarlet, and ὤψ, face) has reference to the beautiful scarlet color which is peculiar to the eyes of many species, especially the males.

The hitherto known species of *Porphyrops* are distributed all over Asia Minor, Europe, and North America.

Table for the determination of the Species.

1	Feet black.	1 **melampus** *Lw.*
	Feet yellow.	2
2	All the coxæ black.	2 **nigricoxa** *Lw.*
	Fore coxæ yellow.	3
3	Fore coxæ not blackened at the basis.	3 **fumipennis** *Lw.*
	Fore coxæ blackened at the basis.	4 **rotundiceps** *Lw.*

Description of the Species.

1. P. melampus Loew. ♂ and ♀.—Pedibus atris, alis nigricantibus.

Feet black, wings blackish. Long. corp. 0.17—0.18. Long. al. 0.14—0.15.

Syn. *Porphyrops melampus* Loew, Neue Beitr. VIII, 50, 1.

Male. Metallic blackish-green. Face very narrow, with white dust. Palpi black with white dust. Antennæ black; third joint rather long and pointed; arista more than half the length of the third joint. Front black-green, with white dust. Cilia of the upper orbit black, those of the inferior snow-white. Upper side of the thorax shining, only on the anterior and lateral margin with more distinct white dust; on the former the beginning of two darker colored lines is perceptible. The scutellum has no hair besides the usual bristles. The bright and dark-green abdomen has scarcely a trace of white dust; its last segment is almost black. The hypopygium is a little larger than in most of the other species of this genus, bright black; the outer appendages are extremely small black lamellæ fringed with black hair; the brown interior appendages are also small, turned a little upwards at the end, but pointed and upon the middle of the lower side fringed with a few hairs. The hair upon the abdomen is black, only on the lateral margin of the anterior segments and upon the venter whitish. Coxæ black, with a rather thick white powder, the fore and middle coxæ with considerable white pubescence and without any black bristles. Feet black; femora with a trace of blackish-green lustre; the tip of the trochanter, the tip of the knee, also the extreme tip of the fore and middle tibiæ brownish-yellow; the first joint of the fore tarsi a little longer than the three following together, at the end of the under side dilated almost in the shape of a tooth; otherwise the feet have no particular distinction. The cilia of the pale-yellowish tegulæ have whitish hair. Halteres pale-yellowish. Wings blackish, in the vicinity of the second half of the anterior margin rather black; the last segment of the fourth longitudinal vein only very little inflected forward in the middle.

Female. The only specimen which I have before me, strikingly differs from the described male in the color of the body; as all the other characters coincide perfectly with those of the male, I have not the least doubt that both belong together and consider the difference in the color as only accidental, as it so often occurs in the *Dolichopodidæ.* Face moderately broad, with silvery-white dust. Palpi black with white dust. Antennæ short, the third joint small and ovate; arista three times the length of the antennæ. Front blue with thin white dust. Upper side of the thorax steel-blue, upon the middle and towards the hind margin more violet. The steel-blue scutellum upon its middle is also of a violet color. The abdomen is dark metallic-green, its last segment rather black-green at the basis, otherwise bright steel-blue. The hairs on the fore coxæ are like those of the male, only less dense and shorter; the hair on the middle coxæ is also whitish, the weak bristles in the vicinity of its tip are, however, black. The wings are the same as those of the males, only the blackening of the second part of the fore margin is stronger and the fourth longitudinal vein with the posterior transverse vein have a darker seam. The remainder like in the male.

Hab. District Columbia. (Osten-Sacken.)

2. P. nigricoxa Loew. ♀.—Pedibus flavis, coxis omnibus et totis nigris.

Feet yellow, all the coxæ entirely black. Long. corp. 0.22. Long. al. 0.23.

Syn. *Porphyrops nigricoxa* Loew, Neue Beitr. VIII, 51, 2.

Female. Metallic-green, front, thorax and scutellum very coppery. Face with yellowish-gray dust; the separation between its upper and lower part is particularly striking. Palpi comparatively small, black with yellowish-gray dust; antennæ black; third joint ovate; arista 1½ the length of the antennæ. Front with thin yellowish-gray dust. Cilia on the upper orbit black, on the lateral and inferior orbits white. All the coxæ entirely black, with gray dust and whitish hair; at the end of the fore and middle coxæ there are no black bristles. Feet yellow, apical half of the hind femora black, the last third of the hind tibiæ and the hind tarsi altogether are of the same color; middle and fore tarsi strongly infuscated from the root and towards the end black. Cilia of the yellowish tegulæ white. Halteres pale-yellowish. Wings gray, on the fore margin more brownish gray; the last segment of the fourth longitudinal vein, beyond the middle, gently inflected forward.

Hab. Maryland. (Osten-Sacken.)

3. P. fumipennis Loew. ♀.—Pedibus flavis, coxis anticis totis concoloribus.

Feet with the fore coxæ altogether yellow. Long. corp. 0.18. Long. al. 0.17—0.18.

Syn. *Porphyrops fumipennis* Loew, Neue Beitr. VIII, 51, 3.

Female. Bright metallic-green. Face with pale yellowish-gray dust. Palpi black, with yellowish-gray dust. Antennæ black; the third joint small, rounded-ovate; arista at least three times the length of the antennæ. Front blue-green, with a pale yellowish-gray dust. Cilia of the upper orbit black, those of the lateral and inferior white. Thorax with a thin but rather distinct grayish-yellow dust. Fore coxæ yellowish with white hair; on their tips among the white hairs there are a few black bristles, not easily perceived. Middle and hind coxæ blackish with yellowish tip; the front side of the middle coxæ is clothed with white hair and towards the tip with a few black bristles; hind femora blackish-brown at the tip; fore and middle tarsi infuscated, blackened towards the end; the last third of the hind tibiæ and the hind tarsi black. Cilia of the pale-yellowish tegulæ whitish; halteres pale-yellowish. Wings tinged with brownish-gray; the last segment of the fourth longitudinal vein gently inflected forward upon its middle.

Hab. Middle States. (Osten-Sacken.)

4. P. rotundiceps Loew. ♂.—Pedibus flavis, coxis anticis concoloribus, basim versus nigris.

Feet and fore coxæ yellow, the latter in the vicinity of the root, black. Long. corp. 0.16. Long. al. 0.16.

Syn. *Porphyrops rotundiceps* Loew, Neue Beitr. VIII, 51, 4.

Male. Bright metallic green. Face very narrow, with silvery-white dust, palpi black with pale dust. Antennæ black; the third joint not very long for a male, rather rounded at the end; arista about as long as the antennæ. Front metallic green. Cilia of the upper orbit black, of the lateral and of the inferior orbits white. Upper side of the thorax bright, with very indistinct white-grayish dust. Scutellum in part steel-blue. Abdomen bright metallic green; in the vicinity of the lateral margin with rather distinct whitish dust; the narrow last segment rather steel-blue; the hair black, on the lateral margin and upon the venter whitish. The small hypopygium black; the exterior appendages are of a dusky gray-yellowish color, comparatively long, fork-shaped and split into a shorter and a much longer internal lobe; the hornlike interior appendages are black and pointed. The yellowish fore coxæ are upon their whole basal half of a brownish-black color, and fringed on the front side with long whitish hairs. There are no black bristles upon them. Middle coxæ blackish with yellowish tip, the latter with a considerable black thorn, which seems to be composed of several contiguous bristles. Hind coxæ of the same color as the middle coxæ. Feet yellow; hind femora almost upon the whole apical half black; hind tibiæ although strong, but not incrassated, their last third black. Fore and middle tarsi somewhat infuscated, their end and the tip of their first joint more dark brown; the first joint of the fore tarsi of the usual form, the hind tarsi black. Cilia of the pale-yellowish tegulæ whitish. Wings tinged with gray, a little darker upon the last part of their anterior margin; the last segment of the fourth longitudinal vein gently inflected forward upon its middle.

Hab. District Columbia. (Osten-Sacken.)

Gen. XXI. **SMILIOTUS.**

Characters. Face in both sexes broad. Palpi large, concealing the proboscis. The antennæ in both sexes of a similar structure; the first joint on the upper side without hairs; the second of the usual transverse form; the third joint of different length in different species, on the under side nearly excised from the root to the tip; the arista entirely apical, the first joint short and stout, the second, however, long, very slender, particularly towards the tip. Scutellum without hair. The abdomen of the male shows only five segments, while there are six in the related genera. The small rounded hypopygium is imbedded and has only very short appendages. All the tarsi are short, especially the hind tarsi, the first joint of which has no bristles; the pulvilli of the fore tarsi of the male are enlarged. The wings are elongated, of rather equal breadth, and have a distinctly protruding anal angle; the last segment of the fourth longitudinal vein is somewhat inflected, ends beyond the tip of the wing and runs upon its middle over a large but flat impression.

This genus has been established by Mr. Haliday, and, in consideration of the almost swordlike form of the antennæ of the species which became first known, was called *Machærium* (from μάχαιρα, the sword). As this same name has already been used for a genus of plants, I have thought fit to abandon it and to substitute the name of *Smiliotus* (from σμιλιωτός, the pruning-knife, because the third joint of the antennæ in the two known species has the form of a pruning-knife).

The two known species belong to the European fauna.

Gen. XXII. **APHROSYLUS.**

The known species of *Aphrosylus* agree in the following, in part rather striking peculiarities which constitute the character of this genus. The first joint of the antennæ without hair, the second of the usual transverse form, the third tapering at the tip; the arista entirely apical. The face narrowed above, especially in the male. The proboscis turned towards the breast. Palpi disengaged, hanging downward, in the male larger than in the female. The abdomen of the male shows six segments; the short and rounded hypopygium ends it in the shape of a knob; its exterior appendages are elongated, parallel lamellæ, fringed with rather long hair. The female abdomen has only five segments. Wings of rather equal breadth; the posterior transverse vein is less distant from the margin of the wing, than its own length; the end of the fourth longitudinal vein is parallel with the third. Feet with rather coarse bristles; the first joint of all the tarsi is much longer than the second; the first joints of the hind tarsi without bristles.

The structure of the proboscis and the position of the palpi distinguish the species of *Aphrosylus* sufficiently from all the other genera of *Dolichopodidæ*. Hitherto only European species have been described.

The name of the genus (from ἀφρός, the froth, and συλάω, I rob) has reference to the habit of these species to pursue their prey along the shores of a surging sea.

Gen. XXIII. **THINOPHILUS.**

Characters. The face in both sexes broad, not reaching as far as the lower eye-corner, and ending below at an obtuse angle.

Palpi in both sexes large, reposing upon the proboscis. Antennæ very short; the first joint without hair, the second short, transverse, longer above than below; the third joint circular, the bare arista dorsal. Wings of equal breadth; the posterior transverse vein is distant from the margin of the wing more than its own length; the last segment of the fourth longitudinal vein is rather parallel with the third. The abdomen of the male has six segments; the hypopygium small, rather imbedded, and somewhat turned inside; its exterior appendages are narrow, parallel lamellæ. The abdomen of the female shows five segments. Femora rather strong, the first joint of the hind tarsi without bristles.

The species of *Thinophilus* are easily distinguished from the species of *Diostracus* by the absence of hair upon the first joint of the antennæ; from the species of *Peodes* they differ by the structure of the face and of the hypopygium.

They live principally along the shores of the sea, whence their name (from ϑίς, down, sand hill, and φίλος, friend).

As yet only European species have been made known.

Gen. XXIV. **PEODES.**

Characters. Face not reaching as far as the lower corner of the eye, rather narrow in both sexes, though a little broader in the female, and more enlarged below; the lower margin is straight. Palpi in the female considerably larger than those of the male and in both sexes reposing upon the proboscis. Antennæ very short; the first joint without hairs; the second short, transverse; the third joint rounded; arista dorsal, only with a short pubescence. Wings of uniform breadth; the posterior transverse vein is removed from the margin of the wing more than its own length; the last segment of the fourth longitudinal vein parallel with the third. The abdomen of the male has six segments; the short, stout hypopygium is not imbedded, but disengaged and a little inflected; its exterior appendages are two small parallel lamellæ alongside of each other and with long hair; the interior appendages form a remarkably large curved forceps. The abdomen of the female shows five segments. The femora are rather strong; the first joint of the hind tarsi has no bristles.

Peodes is closely related only to *Thinophilus;* the differences become evident when the characters of both genera are compared.

The name of the genus (from πεώδης, provided with a large penis) has reference to one of its most striking characters.

Only one European species has as yet been made known.

Gen. XXV. NEMATOPROCTUS.

Characters. Antennæ short; first joint without hair; second joint short, transverse; third joint small, in the male not larger than in the female, rounded; the rather long arista entirely dorsal. The face, much narrower in the male than in the female, does not reach as far as the inferior corner of the eye. Palpi reposing upon the proboscis, those of the female much larger than those of the male. Front of equal breadth. The lower part of the occiput distinctly bearded. Eyes very hairy, especially towards the lower corner. Scutellum not hairy. The abdomen of the male has six segments; the small rounded, and a little imbedded, hypopygium is at its tip; the exterior appendages are long and filiform, the interior appendages very short and usually not distinctly perceptible. The female abdomen shows five segments. Wings a little narrowed towards the basis, the first longitudinal vein not elongated; the posterior transverse vein distant from the margin of the wing by more than its own length; the last segment of the fourth longitudinal vein very gently inflected and towards the end parallel with the third. Feet rather strong; pulvilli of the fore tarsi not enlarged; the first joint of the hind tarsi without bristles.

The species of *Nematoproctus* mostly resemble in their habitus the species of *Porphyrops;* they differ from them, however, by an altogether different structure of the antennæ; the third joint of the male being also very short and the position of the arista completely dorsal. They are less closely related to the species of *Argyra*, to which they were formerly reckoned, as the first joint of the antennæ is without hairs, the third joint of the male is not enlarged, but as small as that of the female, the arista not subapical but entirely dorsal, the first longitudinal vein of the wings not elongated, further, the exterior appendages of the hypopygium have not the shape of short lamellæ, but of long threads. The species of *Nematoproctus* agree with the species of *Leucostola* in the glabrousness of the first joint of the antennæ; otherwise they differ from them precisely in the same manner as from the species *Argyra.*

The name of the genus (from νῆμα, the thread, and πρωκτὸς, *podex*) has reference to the thread-like form of the exterior appendages of the hypopygium. The species hitherto known are all European.

Gen. XXVI. **LEUCOSTOLA.**

The species of *Leucostola,* like those of *Argyra,* have usually upon the abdomen, and often also upon the thorax, a thick brilliant silvery dust, which renders them easy to recognize. The first joint of the antennæ is entirely hairless, the second is transverse, the third bare, rather large in the male; the apparently bare and distinctly two-jointed arista is very near the tip of the antennæ. Wings broad, the posterior angle rather protruding; the first longitudinal vein is farther from the margin of the wing than in most of the other genera, and is also much longer than usual; the fourth longitudinal vein is inflected forward before the middle of its last segment, thence, however, again parallel with the third; the posterior transverse vein is not approximated to the margin of the wing. The first joint of the hind tarsi has no bristles. Hypopygium small, imbedded; its exterior appendages are two small narrow lamellæ, bent downward; the interior appendages are of rather simple structure, and often not distinctly visible.

The close relationship of the genus *Leucostola* to that of *Argyra* can be easily perceived by a comparison of their characters. There is scarcely any difference between them, but that the first joint of the antennæ of *Leucostola* is entirely without any hair, while in *Argyra* it is distinctly covered with hair.

The name of the genus (from λευκὸς, white, and στολή, dress) has reference to the beautiful silvery lustre which covers the abdomen and sometimes also the thorax of most of these species.

The known species belong in part to Europe and in part to America.

1. L. cingulata Loew. ♂.—Viridis, læte splendens, abdomine non pollinoso, cingulis flavis.

Green, brightly shining, abdomen without white dust and with yellow bands. Long. corp. 0.19. Long. al. 016.

Syn. *Leucostola cingulata* Loew, Neue Beitr. VIII, 53, 1.

Male. Face very narrow, silvery-white. Palpi snow-white. Proboscis brownish-black. Antennæ black; the third joint black-brown; the arista inserted close to its tip. Front black with silvery-white dust. Cilia of the upper orbit black, extremely short and delicate; cilia of the inferior and lateral orbits snow-white. Thorax metallic green, very bright, dusted only on the lateral margin. Scutellum of the same color, without hair, besides the usual bristles. Abdomen without any white dust; the first segment mostly black; the second yellowish, transparent, with metallic black border on the posterior margin and with an indistinct blackish spot near the middle of the anterior margin; third segment also yellowish, transparent, and at the basis with a rather broad violet-black transverse stripe, bisinuated on the hind side, and with a narrow blackish-green border on the posterior margin; the coloring of the fourth segment of the abdomen is the same, but the bands on the fore-margin and the posterior border are broader, so that the yellow part of the segment has the appearance of being divided into two spots; the fifth segment has no yellow color, but is violet-black near its basis and black-green towards the tip. The same color prevails on the small hypopygium, the extremely small lamellæ of which are brownish. The rather long but not very coarse hair upon the abdomen is chiefly black, only upon the fore part of the first segment and upon the venter it is yellow-whitish. Coxæ and feet pale-yellowish; fore coxæ with white hair and yellowish-white little bristles. Middle and hind coxæ near the basis a little blackened and also fringed with pale hairs and bristles. Femora slender, the hind ones slightly infuscated at the tip on the upper side. The hair upon the femora is blackish on the upper side and near the tip, whitish near the basis and on the under side; the very delicate whitish hair on the under side of the fore and middle femora is rather long. Fore tibiæ without any bristles; middle and hind tibiæ only with very few delicate and short bristles. Fore and middle tarsi slender, but not very long; the first joint about as long as the others taken together. The first joint of the hind tarsi is shorter than the second and a little stouter, especially towards the tip; it is fringed with the usual short hair, which is however unusually dense upon the latter part of the under side. Cilia of the black margined tegulæ yellowish-white. Wings short and broad; the posterior transverse vein strikingly far distant from the margin of the wing; the last segment of the fourth longitudinal vein before its middle gently inflected forward.

Hab. District Columbia. (Osten-Sacken.)

Observation.—A rather badly preserved female, which I possess, I suppose to be that of *Leucostola cingulata;* it shows, however, some differences, so that it may belong to some other closely related species. It differs from the above described male by the following characters: The face is comparatively broad and covered with a dense glittering silvery-white powder. The white palpi are larger than those of the male. The third joint of the antennæ is very short; the position of the arista almost apical. The abdomen is yellow with the exception of the last segment which is of a metallic-green color, shows however, when looked upon in an oblique direction, an indistinct greenish lustre; its penultimate and antepenultimate incisures are greenish-black towards the lateral margin. The posterior margin of the pleuræ is not gray, but yellow. Among the whitish hair of the fore coxæ there are a few light-brown bristles, which, in a certain direction, have a black appearance. The tip of the hind femora is not darker and the first joint of the hind tarsi is of the usual plain structure, however comparatively of the same length as that of the described males. Otherwise it coincides with it perfectly. The only character which makes it doubtful whether they belong together is the yellow color on the hind margin of the pleuræ in the female.

Hab. District Columbia. (Osten-Sacken.)

Gen. XXVII. **EUTARSUS.**

Characters. Face narrow, especially in the male; a little broader upwards. Palpi very small. The first joint of the antennæ without hair, the second much overreaching the third; the third rounded; the arista dorsal, though rather closely approximated to the tip of the third joint, distinctly two-jointed. The elongated, cylindrical abdomen of the male consists of six segments; the hypopygium is very small, entirely imbedded and without bristles; its appendages are extremely small, almost completely hidden. The female abdomen shows only five segments. Feet rather long, moderately bristly; the first joint of the hind tarsi without bristles, much shorter than the second; the pulvilli on the fore tarsi of the male are enlarged, but not elongated. Wings of rather uniform breadth or narrower towards the root; the first longitudinal vein not elongated; the last segment of the fourth longitudinal vein though somewhat inflected, still rather parallel with the third. *Eutarsus* appears to be nearer related to *Diaphorus* than to any other genus. The striking smallness of the palpi, the face narrowed below, the hypopygium covered with but delicate hairs, the very small and almost completely concealed appendages of the hypopygium and the not elongated pulvilli of the fore tarsi in the male distinguish *Eutarsus* from *Diaphorus* sufficiently. From *Nematoproctus*, whose exterior appendages of the hypopygium are long threads covered with hair, *Eutarsus* is distinguished by the small and concealed appendages of the hypopygium. The species of *Saucropus* cannot be confounded with the species of *Eutarsus* on account of the entirely disengaged hypopygium.

The genus has been founded upon the well known European *Eutarsus aulicus* Meig. The name (from εὖ, handsome, and ταρσός, foot) has reference to the structure of the feet of the male.

As yet no North American species is known to me, but I know a species from Venezuela, the hind tarsi of the male of which have a remarkable structure, and of which I furnish a description.

1. E. eques, n. sp. ♂.—Chalybeus, modice nitens, abdominis ex æneo nigri maculis lateralibus, ventre pedibusque flavis, femoribus posticis supra tibiisque posticis totis fuscis, tarsis anterioribus præter basim, posticis totis nigris, articulo horum primo brevissimo, quarto in aculeum producto.

Steel-blue, moderately shining; lateral spots of the bronze-black abdomen, venter and feet yellow; upper side of the hind femora and the whole hind tibiæ brown; the four anterior tarsi with the exception of the root, and the whole hind tarsi black; the first joint of the latter very short, the fourth joint produced into a point. Long. corp. 0.27. Long. al. 0.26.

Male. Front shining steel-blue, not very broad, not excavated on the vertex. Antennæ only of moderate length, black; the narrow and a little elongated first joint is entirely bare on the upper side, on the lower edge of a rather distinctly reddish-yellow color; the third joint is short ovate; the arista is inserted upon the back of the third joint, nearer to its basis than it is the case with *Eutarsus aulicus.* The face is very narrow immediately below the antennæ, and grows more and more so till it becomes cuneiform, so that the large eyes are entirely contiguous on a large extent. Palpi very small; proboscis rather small. Thorax steel-blue or violet, little shining, upon the shoulders more blue-green and more densely covered with dust; the extreme corner of the shoulder brownish. Scutellum of the same color as the upper side of the thorax and with two bristles. Metathorax and pleuræ black-green, the latter with whitish dust and a yellow hind margin. Abdomen cylindrical, blackish bronze-colored; the second segment has near the basis a narrow yellow transverse stripe, which is somewhat dilated near the lateral margin; and upon the hind corners a large yellow spot; there are similar spots, but diminishing in size, upon the other segments. The small hypopygium is rounded and rather imbedded; its appendages are short, indistinct lamellæ. The short hair upon the abdomen is black; longer black bristles only on the hind margin of the first segment. Coxæ and feet yellow; fore coxæ with pale hair, at the tip only with a few thin black little bristles; middle coxæ with a large black spot, which covers about three-quarters of their outer side; the hind coxæ with a small blackish spot. The hind femora on the upper half of their hind side blackish-brown; fore and middle tibiæ only at the extreme tip slightly infuscated; the hind tibiæ totally black-brown. The fore tibiæ are without bristles; the middle and hind tibiæ are but sparsely beset with short bristles. Fore and middle tarsi from the tip of the first joint black-brown, plain; the first joint of the fore tarsi is somewhat shorter than the following taken together, the first joint of the middle tarsi longer than the others taken together. The hind tarsi are black, very much shorter than the hind tibiæ and of a very peculiar structure; the first joint is remarkably shortened, the second 4½ the size and the third 2½ the size of the first; the fourth joint has only the length of the first, its end, however, is produced into a stout thorn, so that with it this joint is not much shorter than the third; the fifth joint is not at the end of the fourth, but attached on its under side at the place where the fourth joint begins to be pointed;

on both tarsi it is rather singularly at right angles with the fourth joint, is somewhat longer than the third joint and has the form of a slender club. The grayish-hyaline wings are rather long and narrow; their anal angle is rather rounded off; the last segment of the fourth longitudinal vein runs upon its middle over a distinct convexity of the wing and is there a little inflected; towards its end it does not much approach the third longitudinal vein, which is here very gently curved backwards; the sixth longitudinal vein becomes entirely indistinct at a considerable distance from the margin of the wing.

Hab. Venezuela. (Moritz.)

Observation.—Although the present species differs in some respects from *Eutarsus aulicus*, still it coincides in many important characters with it, so that it cannot be located into any other genus, unless, rather prematurely, a new genus is created for it. *Eutarsus aulicus* approaches the forms which prevail in the genus *Diaphorus* more than the above described species.

Gen. XXVIII. **DIAPHORUS.**

At the time of its adoption, and long after, the genus *Diaphorus* was considered as one which was very distinct from the genus *Chrysotus.* The characters which Meigen uses for their distinction are the following: for *Chrysotus*, arista apical, the eyes of the male contiguous under the antennæ, and the wings somewhat divaricated when in repose; for *Diaphorus*, arista dorsal, eyes of the male contiguous on the front, and the wings reposing upon each other when at rest.

The more species of these two genera have become known and the more carefully they have been examined, the more unsatisfactory Meigen's characters have been found. North America is particularly rich in species belonging here, but showing important structural deviations.

Besides the species showing a different structure of the thorax, and which were formerly classed with *Chrysotus*, but are united now in the genus *Chrysotimus*, the other species of *Chrysotus*, agreeing in their habitus, are divided in such, the males of which have eyes contiguous under the antennæ, and in such, where the eyes are separated by the sometimes broad face; the position of the arista is likewise by no means always apical; on the contrary, it is even subapical in the majority of the species.

The same happens to be the case with *Diaphorus*, where the eyes of the males are contiguous upon the front in some of the species only, while in others they are separated by the broad front; the arista likewise is not always distinctly dorsal, but in many species subapical, and in some truly apical. Thus none of the distinctive marks, which Meigen had established for these two genera, holds good, except for *Chrysotus*, the wings divaricated in repose, and the parallel wings for *Diaphorus*. As this character can only be observed on living specimens, it is, even if proved to be correct, entirely insufficient for a systematical distinction of both genera.

In order to escape this difficulty there are two different ways to be followed: either the species, with the eyes of the males not separated upon the front, must remain with *Diaphorus*, and those the eyes of which, in the male, are contiguous below the antennæ, must go with *Chrysotus*, and a new genus must be established for the species of *Diaphorus* and *Chrysotus*, the males of which have the eyes distant above as well as below the antennæ. The other way to follow would be to discover characters for the distinction of *Chrysotus* and *Diaphorus* better than those which Meigen had chosen.

The first of these two alternatives is liable to serious objections. The establishment of three genera would disconnect the relation naturally existing between the insects forming them, a relation based upon their general habitus, and their distinction would consist in a character pertaining merely to the male. Therefore nothing remains but to try the other way.

If we compare first the species of *Chrysotus*, in which the eyes of the males are contiguous under the antennæ, with those of *Diaphorus*, where the eyes are not separated on the front, we will observe the following distinctions: The structure of the body of the species of *Diaphorus* is more slender, the abdomen especially is comparatively narrower, and more elongated; the hypopygium of the male has on the hind side four bristles of rather striking size; the feet are longer, the pulvilli of the fore tarsi in the male are not only enlarged, but considerably elongated (with the exception of *D. nigricans* Meig.); the wings of *Diapho-*

rus are comparatively larger, and have a different outline, because the anal angle is more protruding.

If, separating the typical species of *Diaphorus* from the typical species of *Chrysotus*, we follow out these characters through a series of those species, which, notwithstanding the separation of their eyes upon the front, are placed into the genus *Diaphorus*, on account of their general habitus which approaches the typical species of *Diaphorus*, we find that those among the above mentioned marks of distinction, which are peculiar only to the males, hold also good among these species; at least I do not know of any species which, being placed on account of its general habitus among the species of *Diaphorus*, had not on the posterior end of the hypopygium bristles of greater length and remarkable strength, or in which the pulvilli of the fore tarsi of the male were not elongated.

It is different, however, with those marks of distinction which belong to both sexes, as also with the more slender form of the body, the greater length of the feet, and the more projecting anal angle of the wings of the species of *Diaphorus;* each of these characters gradually fades away from species to species so that, taken singly, these characters are utterly insufficient to decide whether a species belongs to *Diaphorus* or to *Chrysotus*. As it happens, however, that where one character decreases, another one becomes more salient, it follows that in their totality they are sufficient to distinguish the females of both genera, with the exception, perhaps, of a few isolated cases. In doubtful cases it will be well to compare the description of the species of both genera.

The character of the genus *Diaphorus* may, therefore, be established, as follows: Form of the body rather elongated. Eyes of the male never contiguous on the face, in some species separated upon the front, in others not. Antennæ short, the first joint bare, the second transverse, the third short, distinctly hairy, with a dorsal or subapical, rarely with an apical arista. Wings rather large, with strongly projecting anal angle, and thus usually somewhat broader towards the basis; the posterior transverse vein is either a little beyond, or in, or before the middle of the wing, never close to the margin of the wing; the last segment of the fourth longitudinal vein is almost straight, or but gently inflected, seldom interrupted, so that its end is thus more approximated to the third longitudinal vein, without, however, converging towards it. Feet rather long, but not very slender; the first joint of the hind tarsi without bristles; the pulvilli of the fore tarsi elongated in the males of all species; in the males of some species the same is the case with the pulvilli of the middle tarsi; in some with the pulvilli of all the tarsi. The hypopygium small, imbedded, on the posterior end with stouter bristles.

The name of the genus (from διάφορος, different) signifies nothing more but that the species on which this genus was established were remarkably different from the species of previous genera, and is therefore not at all characteristic.

The known species of *Diaphorus* are found in Europe, Asia, Africa and America.

Table for the determination of the Species.

1	Color of the body non-metallic, black.	1 **opacus** *Lw.*
	Color of the body metallic-green.	2
2	Feet entirely yellow.	2 **mundus** *Lw.*
	Feet not entirely yellow.	3
3	Tegulæ with black cilia.	4
	Tegulæ with whitish cilia.	6
4	Eyes of the male contiguous.	3 **spectabilis** *Lw.*
	Eyes of the male not contiguous.	5
5	All the tibiæ yellow.	4 **sodalis** *Lw.*
	Only the first half of the four anterior tibiæ yellow.	5 **lamellatus**, nov. sp.
6	Last segment of the fourth longitudinal vein not interrupted.	6 **leucostomus** *Lw.*
	Last segment of the fourth longitudinal vein interrupted.	7 **interruptus** *Lw.*

Systematical arrangement of the Species.

I. The eyes of the male contiguous upon the front.

1. **opacus** *Lw.*
2. **mundus** *Lw.*
3. **spectabilis** *Lw.*

II. The eyes of the male not contiguous upon the front.

A. The last segment of the fourth longitudinal vein not interrupted.

4. **sodalis** *Lw.*
5. **leucostomus** *Lw.*
6. **lamellatus**, nov. sp.

B. The last segment of the fourth longitudinal vein interrupted.

7. **interruptus** *Lw.*

Description of the Species.

I. THE EYES OF THE MALE CONTIGUOUS UPON THE FRONT.

1. D. opacus Loew. ♂.—Totus niger, tibiis piceis.

Entirely black, tibiæ pitch-brown. Long. corp. 0.12. Long. al. 0.12—0.13.

Syn. *Diaphorus opacus* Loew, Neue Beitr. VIII, 56, 1.

Male. Entirely black. Face with the palpi and the proboscis black, entirely glabrous. Antennæ black; third joint small; position of the arista more subapical than dorsal. The eyes are completely contiguous on the upper part of the front; immediately above the antennæ a brownish-black, opaque, triangular spot lies between them. Upper side of the thorax and of the scutellum covered with brown dust and opaque. The dust upon the black pleuræ is more gray-brown and less distinct. The abdomen shining black, covered with black hair; the stronger bristles on the posterior part of the hypopygium very striking; its exterior appendages very small, black; coxæ and femora black and with black hair; fore and middle femora on the under side with a row of sparse, erect, not very long black hairs; on the under side of the hind femora there are similar black little hairs, which are less erect and somewhat longer only towards the end. Fore and middle tibiæ more yellowish-brown; hind tibiæ dark-brown. Fore tarsi slender, the first joint as long as the following three together; a great part of the first joint is yellowish-brown, its tip with the rest of the joints black-brown; pulvilli not very much enlarged and only moderately elongated. Middle tarsi black-brown with yellowish-brown basis; hind tarsi entirely black-brown. Halteres and tegulæ black; the cilia of the latter also black. Wings smoky-blackish, towards the anterior margin darker; they become visibly broader towards the basis; posterior transverse vein but little before the middle of the wing; the first longitudinal vein reaches almost as far as the middle of the anterior margin and is somewhat distant from the latter.

Hab. New York. (Osten-Sacken.)

Observation 1.—*D. opacus* is very closely allied to the European *D. nigricans.* As I have only one specimen of the former, I am unable to prove the coincidence of both species in all the plastic characters as fully as it is necessary when an American species is to be recognized as identical with a European species. Neither can I mention any reliable characters for the distinction of both species. I believe that the examination of a larger number of specimens will establish their identity.

Observation 2.—I believe I know the female of *D. opacus*, am however not certain, on account of the smaller length of the first longitudinal vein and the paler coloring of the hind tibiæ. The proboscis of this female is remarkably stout and protruding with a flattened tip; palpi rather large and broad. Face with an almost imperceptible grayish dust, with a distinct transverse swelling upon its middle; front with gray-brown dust and with a transverse furrow below its middle; all the tibiæ yellowish-brown, wings tinged with a dusky blackish color, though not so much as in the above described male, and towards the fore margin not much darker; the first longitudinal vein reaches about as far as the middle between the extreme root of the wings and the end of the second longitudinal vein. All the rest as in the male.

Hab. Pennsylvania.

2. D. mundus Loew. ♂ and ♀.—Laete viridis, pedibus totis flavis.

Light metallic green, all the feet yellow. Long. corp. 0.12—0.13. Long. al. 0.12—0.13.

Syn. *Diaphorus mundus* Loew, Neue Beitr. VIII, 57, 2.

Light metallic green. The face has a blue-green, but little shining, ground color, which is rather concealed by the distinct white dust; it is somewhat broader in the female and has a distinct transverse swelling. Palpi yellowish-brown, much larger in the female and blackened to a considerable extent towards the basis. Proboscis dusky yellow or yellowish-brown. Antennæ brownish-yellow; the small third joint more infuscated; the arista almost apical; the eyes of the male meet completely on the upper part of the front, while they are separated directly above the antennæ by a triangular spot of white dust. The front of the female is of entirely uniform breadth, only very little exceeding the breadth of the face, has a blue-green, scarcely a somewhat shining ground color, and is covered with yellowish dust. The cilia of the upper orbit are black and, on account of their brevity, but difficult to perceive; the cilia of the lateral and inferior orbits are whitish. Upper side of the thorax and of the scutellum pale-green, with metallic lustre, covered with rather thick ochre-yellow dust. Abdomen somewhat darker metallic green, often more gold-green, or coppery-brownish. The bristles at the end of the hypopygium are not very long; its exterior appendages brownish and very small. Coxæ and feet yellow; the first two-thirds of the middle coxæ blackened, the hind coxæ near the basis infuscated. The hair on the feet appears black; when seen by a reflected light it changes on the tibiæ to brownish and on the larger portion of the femora to fallow-yellowish; the root, a part of the under side of the femora, also the fore coxæ are distinctly fallow-yellowish. The tarsi are scarcely a little infuscated towards their tips, though their last joint is of a dark brown color. In the male the pulvilli of the fore and middle tarsi are considerably enlarged and elongated; the pulvilli of the hind tarsi are much less so. Halteres and tegulæ yellowish with black-brown cilia, which in some directions have a yellowish lustre. Wings grayish-hyaline, on the anterior half usually somewhat yellowish with yellowish-brown veins; they are rather large and towards the basis a little broader, but their greater breadth is not so near to the posterior margin as in the previous species; the posterior transverse vein is not nearer to the extreme tip of the wing than it is to its root and the first longitudinal vein reaches scarcely above the first third of the length of the whole wing.

Hab. Pennsylvania.

3. D. spectabilis Loew. ♂.—Aeneo-viridis, femoribus nigris, tibiis tarsorumque omnium basi flavis, ciliis tegularum nigris, oculis maris in fronte contiguis.

Bronze green, femora black, tibiæ and the root of all the tarsi yellow, cilia of the tegulæ black, the eyes of the male contiguous on the front. Long. corp. 0.13—0.17. Long. al. 0.15—0.16.

Syn. *Diaphorus spectabilis* Loew, Neue Beitr. VIII, 57, 3.

Dark metallic-green, thorax and abdomen more bronze-green, the former sometimes more coppery. Face blue-green with thick white dust, which conceals considerably the ground color. Palpi and proboscis black. Antennæ black, small; arista almost completely apical. The eyes meeting upon the front to a large extent and separated only by a very small triangular spot, immediately above the antennæ. Cilia on the upper orbit black, on the lower and lateral orbits white. Upper side of the thorax and scutellum covered with yellow-brownish dust. The stouter bristles on the posterior end of the very small hypopygium rather striking; its exterior appendages brown and very small. Coxæ black and with whitish dust; the hair on the fore coxæ appears in most directions black, in others fallow-brownish. Femora black, somewhat with a green reflection; the tip of the fore and middle femora brownish-yellow; their black hair, even on the under side, neither of considerable length nor density. Tibiæ brownish-yellow, rather slender, with a few bristles. Fore tarsi very slender, from the tip of the first joint black-brown, though the basis of the second joint is again paler than the tip of the first; their first joint is as long as the other four together; the pulvilli are very much enlarged and elongated. Middle tarsi of an entirely similar structure, of the same color, but their pulvilli are somewhat less enlarged; hind tarsi from the tip of the first joint black-brown, their pulvilli but very little enlarged; the yellowish tegulæ with blackish cilia, which assume a yellowish glitter in a reflected light. Halteres yellowish, the tip of their knob usually somewhat infuscated. Wings tinged with gray, with blackish-brown veins, along which, in faded specimens, there are blackish-brown margins; they are broad, though their greatest breadth is not very close to the posterior angle; the space between the third and fourth longitudinal veins is rather wide; the last segment of the latter shows a very gentle flexure; posterior transverse vein rather long and somewhat beyond the middle of the wing; the first longitudinal vein reaches somewhat beyond the first third of the whole length of the wings and is not very far distant from the anterior margin.

Hab. District Columbia. (Osten-Sacken.)

II. THE EYES OF THE MALE NOT CONTIGUOUS UPON THE FRONT.

A. The last segment of the fourth longitudinal vein not interrupted.

4. D. sodalis LOEW. ♂ and ♀.—Aeneo-viridis, femoribus nigris, tibiis omnibus tarsorumque anteriorum basi flavis, tarsis posticis totis ex nigro fuscis, ciliis tegularum nigris, oculis maris in fronte separatis.

Bronze-green; femora black; all the tibiæ and the basis of the four anterior tarsi yellow; all the hind tarsi black-brown; cilia of the tegulæ black; eyes of the male separated upon the front. Long. corp. 0.14—0.15. Long. al. 0.15.

SYN. *Diaphorus sodalis* LOEW, Neue Beitr. VIII, 58, 4.

Rather dark metallic-green, the abdomen and sometimes also the thorax more bronze-green, the scutellum in one specimen violet upon its middle. Face of the male of uniform breadth, green-blue with thick white dust; the face of the female visibly broader, more green, with less dust, below the middle with a transverse swelling. Palpi of the male whitish, only near the extreme basis somewhat blackish; the palpi of the female much larger, only at the tip dusky-whitish, otherwise blackish. Antennæ small, black, with an apical arista. Front of the male of uniform breadth, somewhat exceeding the breadth of the face, blue with yellow-brownish dust, and green and shining upon the vertex. The front of the female is considerably broader, more green and less thickly dusted, the dust has in the vicinity of the antennæ a whitish appearance. Cilia of the upper orbit black, those of the lateral and inferior orbits whitish. Thorax distinctly, but not very thickly, dusted. The coarser bristles on the posterior end of the small hypopygium are less striking; the very small exterior appendages are brownish-black. Coxæ black with whitish dust; the fore coxæ indistinctly dingy white-yellowish at the tip; the sparse hair on the front side pale, but the bristles of the tip, black. The trochanter of the fore and middle feet dusky-yellowish, of the hind feet more brownish. Femora black with green lustre; their black hair is comparatively short; only on the under side of the femora of the male, very closely to the tip, a few somewhat longer bristle-like hairs. The tips of the four anterior femora and the tibiæ are brownish-yellow, but the tip of the hind tibiæ is rather dark-brown. The fore tarsi of the male are slender and elongated, brownish-yellow at the root, then gradually becoming more infuscated; their first joint is about as long as the two following taken together; the pulvilli are but moderately enlarged and elongated. The middle tarsi of the male are of the same color as the fore tarsi and of the same structure, but the first joint is almost as long as the following four taken together, and the pulvilli are not so much enlarged and less elongated. The fore and middle tarsi of the female correspond in color with those of the male, are, however, considerably shorter, have no enlarged pulvilli, and the first joint of the fore tarsi is about equal in length to all the other joints together. The short hind tarsi are in both sexes dark black-brown. Cilia of the white-yellowish tegulæ black. Halteres white-yellowish. Wings tinged with gray, with black-brown veins, which are margined with dusky in faded specimens; they are rather large and broad; their greatest breadth is close before the middle; the posterior transverse vein lies in the middle between the extreme root and the extreme tip of the wing; the fourth longitudinal vein is somewhat distant from the third one; the first longitudinal vein is comparatively close to the margin of the wing and scarcely reaches one-third of the length of the wings.

Hab. New York.

5. D. lamellatus, nov. sp. ♂.—Aeneo-viridis, pedibus nigris, tibiarum anteriorum dimidio basali flavo, ciliis tegularum nigris, oculis maris in fronte separatis.

Bronze-green; feet black; basal half of the four anterior tibiæ yellow; cilia of the tegulæ black; the eyes of the male separated upon the front. —Long. corp. 0.13. Long. al. 0.14.

Dark metallic-green, the color of the scutellum sometimes more blue and that of the abdomen more coppery. Face with thick whitish dust. Palpi small, whitish and fringed with a few black hairs. Antennæ small, black; the arista subapical. Eyes separated; front much narrower than the face, broader below than above, and covered with thick white dust. Cilia of the upper orbit black, of the lateral and inferior orbits whitish. Thorax, though with distinct, but very thin brownish-yellow dust. On the posterior end of the hypopygium there are six bristles of remarkable strength. The brownish-black exterior appendages are of much larger size than in the kindred species; they are elongated spatule-shaped, very narrow at the root, rounded at the tip and fringed with blackish hairs. Coxæ and feet black; the trochanter of the fore coxæ, the extreme tip of the four anterior femora and basal half of the four anterior tibiæ yellow. The hair upon the feet is black, on the under side of the hind femora elongated and more dense towards their tip. The pulvilli of the fore tarsi are rather uncommonly elongated, while those of the middle tarsi exhibit only a small elongation and those of the hind tarsi none at all. Cilia of the white-yellowish tegulæ black. Halteres white-yellowish. Wings gray with brownish-black veins, rather large and broad;

they have their greatest breadth somewhat before their middle; the posterior transverse vein is in the middle between the extreme root and the tip of the wings; the first longitudinal vein runs at least as far as the third of the length of the wing.

Hab. Middle States. (Osten-Sacken.)

6. D. leucostomus Loew. ♂ and ♀.—Laete viridis, thorace et scutello interdum cærulescentibus, tegularum ciliis albidis, venâ longitudinali quartâ non interruptâ.

Light green, thorax and scutellum sometimes more blue; cilia of the tegulæ whitish, the fourth longitudinal vein not interrupted. Long. corp. 0.09—0.10. Long. al. 0.12.

Syn. *Diaphorus leucostomus* Loew, Neue Beitr. VIII, 58, 5.

Male. Light green, metallic, shining, thorax and scutellum sometimes sky-blue. Face for a male very broad, deepened lengthwise, without transverse swelling, so thickly covered with snow-white dust, that the ground-color becomes invisible. Palpi protruding, much larger than in the males of other species; proboscis very small, black. Antennæ black, larger than in other species; the third joint is particularly distinguished by its more considerable size and is extended at the end into a short point; arista inserted on the upper side before the tip of this point, but so much bent downward as to be easily mistaken for being apical. Front of uniform breadth, scarcely exceeding that of the face, blue with white dust, which is thicker near the antennæ and is almost totally wanting upon the vertex. Cilia of the upper orbit black, those of the lower and lateral orbits whitish. Thorax with thin gray-whitish dust. The bristles on the posterior margin of the small hypopygium rather long and strong; its outer appendages are not distinctly visible. Coxæ black, the foremost dusky-whitish at the tip, on the front side rather bright blue-green and fringed with whitish hair, but without black hairs or bristles. Femora metallic blue-green with yellowish tip, with very short hair. Tibiæ and tarsi yellowish, the latter towards the end gradually somewhat darker, but only their last joint brown; fore tibiæ without strong bristles, middle and hind tibiæ with a stronger bristle on the exterior edge of their upper side and not far from the root; the hind tibiæ, on the exterior edge of the upper side, are sparsely beset with shorter and weaker bristles. Fore tarsi long and slender; their first joint about as long as the other three together, the pulvilli considerably enlarged and elongated. Middle tarsi like the fore tarsi and of a similar color, but their first joint about as long as the other four together, and the pulvilli not quite so large and not quite so elongated as on the fore tarsi. Hind tarsi more infuscated, only the root of the first joint brownish-yellow. Tegulæ whitish with whitish cilia. Halteres also whitish. Wings hyaline, but very little tinged with gray; veins brown-black; the posterior transverse vein rather exactly in the middle between the root and the tip of the wing; the first longitudinal vein reaches but very little beyond the third part of the length of the wings.

Female. Face very little broader than in the male, with thick white powder, although appearing gray on account of the apparent dark ground-color; it is somewhat deepened upon its larger upper part and gently convex upon its smaller lower part; both parts are divided by an imperfect transverse swelling. Palpi whitish, near the basis somewhat gray. Antennæ considerably smaller than in the male, the third joint much smaller, rounded, with an almost imperceptible angle below the insertion of the arista. Front more broad and more green than in the male. Tarsi shorter and usually somewhat more infuscated than those of the male. The pulvilli not enlarged.

Hab. Maryland. (Osten-Sacken.)

Observation 1.—I believe that I am not mistaken with regard to their belonging together, but I rather preferred to describe them separately. If, contrary to expectation, they should prove as not belonging together, then the name must remain to the male, which I consider as typical.

Observation 2.—*D. leucostomus* approaches in its entire habitus several species which I believe must be referred to *Chrysotus* more than any other species of the genus *Diaphorus*, known to me. The elongation into a point of the third joint of the antennæ in the male seems to indicate a relationship to *Synarthrus barbatus;* nevertheless the latter differs materially by its narrow, not deepened face, by the conspicuously elongated third joint of the antennæ and also by the entirely apical insertion of the arista.

B. The last segment of the fourth longitudinal vein interrupted.

7. D. interruptus Loew. ♂.—Obscure virescens, modice nitens, femoribus et tibiis concoloribus, genibus testaceis, tarsis fuscis, venâ alarum longitudinali quartâ interruptâ.

Dark green, moderately shining; femora and tibiæ also green; knees brownish-yellow; tarsi brown; the fourth longitudinal vein interrupted. —Long. corp. 0.23. Long. al. 0.20.

Syn. *Diaphorus interruptus* Loew, Wien. Ent. Monatschr. V, 37, 9.—Loew, Neue Beitr. VIII, 59, 6.

Male. Rather dark green, not very shining. Face of uniform breadth with the front, very broad for a male, covered with thick whitish dust, so that the ground color becomes invisible, moderately deepened and without a transverse swelling. Palpi and proboscis black. Antennæ black; their first joint somewhat longer than in other species; the third joint rounded; position of the arista distinctly dorsal. Front with thick dusky-whitish powder, so as to conceal the ground color. Cilia of the upper orbit black; the cilia of the lateral and inferior orbits are whitish and form a considerable fringe. Upper side of the thorax and of the scutellum dark-green and dull from grayish dust. Abdomen more shining-green, with extensive but less thick whitish dust and on the anterior part of the segments coppery to a large extent. The four stout bristles on the posterior end of the small and imbedded hypopygium are very prominent. Coxæ black; the fore and middle coxæ on the front side more black-green and fringed with black bristles. Femora metallic green, stout, beset with dense and coarse black hair, on the under side with numerous, but not strong black bristles. Knees yellowish-brown. Tibiæ on the under and front side black-brown, on the upper and hind side dark metallic-green, of strong structure and with unusually strong bristles. Tarsi black-brown, the root of the anterior ones and the under side of all the others more brownish-red; all tarsi are stouter and less elongated than in the other species known to me, also with more hair; the pulvilli are all very much enlarged and elongated. Tegulæ yellowish with pale-yellowish cilia. Wings hyaline, scarcely a little tinged with gray, alternately with yellow and brown veins; first longitudinal vein somewhat distant from the margin of the wing and reaching about as far as the middle of the wing; the third longitudinal vein is very close to the second and ends long before the tip of the wing, although its end is very much curved backwards; the posterior transverse vein is very short and lies much before the middle of the wing, so that the last segment of the fourth longitudinal vein becomes uncommonly long; the latter diverges very much from the third longitudinal vein, is entirely interrupted upon its second third and the last third, which is remarkable by its slenderness, is pushed forward towards the third longitudinal vein.

Hab. Cuba. (Poey.)

Observation.—The interruption of the last segment of the fourth longitudinal vein is particularly striking in this species; a trace of it is also found in some of the European species. The position and the course of the third longitudinal vein recall the neuration of *Lyroneurus.*

Gen. XXIX. **LYRONEURUS.**

The following are the characters of the genus *Lyroneurus:* The body is elongated. Eyes upon front and face widely separated in both sexes. Antennæ short; the first joint not hairy, the second transverse, the third short, rounded, distinctly pubescent; arista apical. Wings very large, at the tip broad and very obtuse; the posterior transverse vein does not approach the margin of the wing; the third longitudinal vein very close to the second and very much turned backward at the end; the space between the third and fourth longitudinal veins remarkably broad; last segment of the fourth longitudinal vein distinctly inflected. Feet rather long, but not very slender; first joint of the hind tarsi without bristles. Pulvilli of the fore tarsi in the male not elongated. Hypopygium small, imbedded, at the posterior end with four strong bristles; its appendages are very small and hidden.

The genus *Lyroneurus* is by far the next related to the genus *Diaphorus.* A more minute examination of the American species of *Diaphorus* has satisfied me that this relationship is greater than I supposed, when establishing the genus *Lyroneurus* (Wien. Ent. Monatsch. I, 37). The larger size of the wings, which are very broad at the tip, the greater breadth of the space between the third and fourth longitudinal veins, the distinct flexure of the last segment of the fourth longitudinal vein and the not elongated pulvilli of the fore tarsi in the male, these are the characters which distinguish *Lyroneurus* from *Diaphorus*. The last of these characters is decisive for the maintenance of the genus *Lyroneurus*, as the elongation of the pulvilli of the fore tarsi in the male cannot be dispensed with in the character of the genus *Diaphorus*, without rendering the limit between *Diaphorus* and *Chrysotus* entirely uncertain.

The genus *Lyroneurus*, to which also belongs *D. adustus* Wied., seems to contain only American species; they appear to be particularly numerous in South America.

The name of the genus (from λύρα, the lyre, and νεῦρον, the nerve) has reference to the lyre-shaped space between the third and fourth longitudinal veins.

1. L. cærulescens Loew. ♂.—Viridis, thorace et abdominis dorso cæruleis, femorum apice tibiisque totis testaceis, tarsis ex nigro fuscis.

Green, thorax and dorsum of the abdomen sky-blue; tip of the femora and the whole tibiæ brownish-yellow; tarsi black-brown. Long. corp. 0.22. Long. al. 0.25.

Syn. *Lyroneurus cærulescens* Loew, Wien. Ent. Mon. I, 39.—Loew, Neue Beitr. VIII, 60, 1.

Light metallic-green, most of the upper side of the thorax, of the scutellum and the greater part of the upper side of the abdomen sky-blue or violet. Face of considerable and uniform breadth and so thickly covered with gray-whitish dust that no trace of the blue-green ground-color is left. Palpi black, with white-gray dust and with strong black hairs. Antennæ black, short. Front of uniform breadth, equal to that of the face; the dust upon it is so thick that hardly a trace of the ground color is left. Cilia of the upper orbit black, cilia on the lateral and inferior orbits white and forming a rather thick beard. Thorax pale green, upon the middle line and upon the whole hind part sky-blue, or shifting to violet. The rather thick dust on the upper side of the thorax has a gray-brownish tinge. Scutellum blue or violet with gray-brown dust, on each side with a stronger and with a weaker bristle, on the surface bare. Pleuræ green with rather thick gray-white dust. Abdomen cylindrical, metallic-green; its upper side shining blue or violet from the middle of the second segment to the tip. The hair upon the abdomen is black; the bristles on the hind margin of the single segments are but of moderate length.

The lateral margin of the abdomen shows a distinct gray-whitish dust. The small hypopygium is completely imbedded; it has (as I now perceive on a well-preserved specimen) four strong bristles on the hind margin, like the hypopygium of the males of *Diaphorus;* the appendages of the hypopygium are extremely small, and completely hidden. Coxæ black, somewhat shifting to green, rendered gray by a covering of dust; the fore coxæ at the tip are of a dusky-yellowish color, and beset with black bristles, while on their front side there is some pale hair. Femora green, not strong and fringed with comparatively short black hair. On the four anterior femora the tip to a considerable extent, and on the hind femora only the extreme tip are of a brownish-yellow color. Tibiæ brownish-yellow, the tip of the hind tibiæ strongly infuscated, all the tibiæ with but few bristles. Tarsi black-brown, the first joint of the middle tarsi up to its first third, that of the fore tarsi up to the middle, yellow-brownish. Fore tarsi but little longer than the fore tibiæ, and their first joint not quite so long as the rest; their pulvilli not enlarged. Tegulæ white-yellowish with brownish-black cilia. Wings grayish hyaline with a greasy lustre; veins brown; the first longitudinal vein lies close to the margin of the wing and reaches only a little over the first quarter of the length of the wings; the costa is rather stout, particularly near the end of the second longitudinal vein; the posterior transverse vein is straight and is pretty much in the middle between the root and the tip of the wing.

Hab. Mexico.

Gen. XXX. **CHRYSOTUS.**

The genus *Chrysotus* contains on the average only small species. The eyes of the males in many species meet upon the front; in males of other species they are separated. The front becomes broader towards the vertex in most of these species, and more so than is the case with the species of *Diaphorus.* Antennæ very short; the first joint without any hair; the second transverse; the third rounded, often rather kidney-shaped, sometimes pointed and distinctly hairy; only in one species, which, on account of the agreement of all the other characters, I have located with *Chrysotus,* the third joint of the antennæ is considerably longer, almost of the same shape as in most of the species of *Argyra.* The two-jointed arista has an apical or a subapical position. Hypopygium imbedded, distinctly hairy; its outer appendages have a lamelliform structure and are usually concealed. Feet rather short and comparatively strong. The first joint of the hind tarsi without bristles. Wings in comparison rather broad and very rounded at the tip; the small transverse vein in most of the species very far distant from the margin of the wing; the last segment of the fourth longitudinal vein straight, parallel or almost parallel to the third longitudinal vein.

I have already expressed myself in detail (see *Diaphorus*) about the difficulty attending the distinction of the genera *Diaphorus* and *Chrysotus.* I have pointed out that I consider the smaller size, the less slender form, the comparatively smaller size of the wings, the smaller length of the feet, the not elongated pulvilli of the fore tarsi in the male and the absence of stronger bristles on the posterior end of the hypopygium, as those characters, which enable us to distinguish the species of *Chrysotus* from *Diaphorus.*

The range of the genus *Chrysotus* is known to be Europe, Asia, Africa, and America. The name of the genus (from χρυσωτὸς, gilded) has reference to the gold-green color of many species.

Mr. Say has described three North American species of *Chrysotus;* hardly one of the three probably belongs to this genus, as Mr. Say seems to have misunderstood its characters; *Chrysotus nubilus* may be a *Medeterus, C. concinnarius* is perhaps a *Diaphorus,* and *C. abdominalis* is probably a *Chrysotimus.* In the next place Mr. Macquart has described a female as *Chrysotus viridifemora;* if face and front are covered with white dust, as it seems to follow from his description, this character and the color of the feet may perhaps help to recognize the species. Finally, Mr. Walker has, in his usual careless manner, published a *Chrysotus incertus,* which probably will remain *incertus* forever; as he has not even stated the sex of the specimen described, his description is of no use whatever.

I know, thus far, twelve North American species of *Chrysotus,* of which five are represented in both sexes, three only in the male, and four in the female sex; two of the latter offer but so little peculiar characteristics, that I hesitate with their publication, while the two others are striking enough to preclude the possibility of a mistake.

Table for the determination of the Species.

1	Third joint of the antennæ elongated.	1 **cornutus**, nov. sp.
	Third joint of the antennæ not elongated at all.	2
2	Femora of dark color.	3
	Femora of pale color.	11
3	Ground-color of the palpi pale.	4
	Ground-color of the palpi blackish.	5
4	Palpi white.	2 **longimanus** *Lw.*
	Palpi yellow, near the basis blackish.	3 **validus** *Lw.*
5	Cilia of the tegulæ black.	6
	Cilia of the tegulæ pale.	8
6	Eyes of the male separated.	6 **vividus**, nov. sp.
	Eyes of the male contiguous.	7
7	Four anterior tibiæ of the male and all the tibiæ of the female yellow.	4 **obliquus** *Lw.*
	Both the fore tibiæ of the male and the four anterior tibiæ of the female yellow.	5 **affinis** *Lw.*
8	Wings of the male with thickened costa.	9
	Wings of the male without a thickened costa.	10
9	Costa of the male very much incrassated.	7 **costalis** *Lw.*
	Costa of the male moderately incrassated.	8 **subcostatus**, nov. sp.
10	Smaller species, with about three bristles on the upper side of the hind tibiæ.	9 **discolor** *Lw.*
	Larger species, with about five bristles on the upper side of the hind tibiæ.	10 **auratus** *Lw.*
11	Antennæ entirely black.	11 **pallipes** *Lw.*
	First joint of the antennæ red.	12 **picticornis**, nov. sp.

Systematical arrangement of the Species.

I. Third joint of the antennæ elongated.

1. **cornutus**, nov. sp.

II. Third joint of the antennæ not elongated at all.

A. Femora of a dark color.

A. Ground-color of the palpi pale.

2. **longimanus** *Lw.* 3. **validus** *Lw.*

B. Ground-color of the palpi blackish.

1. Cilia of the tegulæ black.

4. **obliquus** *Lw.* 6. **vividus**, nov. sp.
5. **affinis** *Lw.*

2. Cilia of the tegulæ pale.

a. Costa of the male incrassated.

7. **costalis** *Lw.* 8. **subcostatus,** nov. sp.

b. Costa of the male not incrassated.

9. **discolor** *Lw.* 10. **auratus** *Lw.*

B. Femora of a pale color.

11. **pallipes** *Lw.* 12. **picticornis,** nov. sp.

Description of the Species.

I. THIRD JOINT OF THE ANTENNÆ ELONGATED.

1. C. cornutus, nov. sp. ♂.—Obscure viridis, paulo nitens, tertio antennarum articulo elongato, oculis infra antennas contiguis, tegularum ciliis femoribusque nigris, tibiis testaceis, tarsis anterioribus inde ab articuli primi apice posticisque totis fuscis.

Dark green, little shining; the last joint of the antennæ elongated, eyes meeting below the antennæ; cilia of the tegulæ and femora black; tibiæ brownish-yellow; the four anterior tarsi from the tip of the first joint and all the hind tarsi brown. Long. corp. 0.09. Long. al. 0.09.

Dark green, moderately shining. Antennæ black, the third joint uncommonly elongated for a *Chrysotus,* almost of the same shape as in the species of *Argyra,* only somewhat longer, with a blunt tip; arista apical. Front black-green. Coxæ and femora black, the latter with brownish-yellow tip. Tibiæ brownish-yellow, the hindmost black-brown at the tip and fringed on their upper side with a moderate number of bristles. The four anterior tarsi are black-brown from the tip of the first joint; the hind tarsi are of a black-brown color. Cilia of the tegulæ black. Wings of the usual structure peculiar to the genus *Chrysotus,* hyaline with a gray tinge; the small transverse vein is before the middle of the wing and is short.

Hab. Illinois. (Le Baron.)

Observation.—This species is distinguished from all other species of the genus *Chrysotus* in a striking manner by the unusual elongation of the third joint of the antennæ, agrees, however, completely in all other respects. I have hesitated to establish a new genus upon it, as but a single character constitutes its difference from *Chrysotus,* which character belongs probably only to the male.

II. THE THIRD JOINT OF THE ANTENNÆ NOT ELONGATED AT ALL.

A. Femora of a dark color.

a. Ground color of the palpi pale.

2. C. longimanus Loew. ♂.—Viridis, nitens, palpis albis, társis anterioribus tenuibus et longis.

Green, shining, palpi white, the four anterior tarsi long and slender. Long. corp. 0.14. Long. al. 0.14.

Syn. *Chrysotus longimanus* Loew, Neue Beitr. VIII, 62, 1.

Shining green. Face of uniform, and for a male, rather considerable breadth; the covering of white dust does not entirely conceal the green-blue ground color. Palpi white, not very broad, but for a male rather long. The third joint of the antennæ not large, rather kidney-shaped; the position of the arista rather precisely apical. Front metallic-green, very little dusty and towards the vertex very little enlarged. Upper side of the thorax covered only with a thin brownish-yellow dust. Coxæ and femora black with a blue-green metallic lustre, which is more distinct on the femora; the tip of the fore coxæ yellow, the tip of the posterior coxæ dusky-brown. On the anterior feet the tip of the femora, the tibiæ and the greatest part of the first joint of the tarsi are yellow; the remainder of the unusually slender and long fore tarsi is dark brown; the hind tibiæ are yellow, but distinctly infuscated at the tip; the hind tarsi are dark brown. The hair upon the feet is short and the bristles very scarce. Cilia of the tegulæ pale. Wings distinctly tinged with gray and with rather black veins. The posterior transverse vein is more distant from the root of the wing than in most of the other species.

Hab. Middle States.

3. C. validus Loew. ♀.—Aureo-viridis, nitens, palpis flavis, basim versus nigricantibus, pedibus flavis, femoribus posticis excepto apice nigris, viridi-micantibus, femoribus anticis nigro lituratis.

Golden-green, shining, palpi yellow, towards the basis blackish; feet yellow, hind femora with the exception of the tip black, with greenish lustre, the anterior femora striped with black. Long. corp. 0.13. Long. al. 0.13.

Syn. *Chrysotus validus* Loew, Neue Beitr. VIII, 63, 2.

Golden-green, shining. Face for a female of moderate breadth;

its covering with whitish dust does not entirely conceal the blue-green ground-color; the usual transverse swelling lies, as in most of the other species, usually rather far below its middle; palpi for a female of moderate size, yellowish and blackish at the root. The third joint of the antennæ comparatively not large, rather rounded. Front metallic-green, with thin dust and towards the vertex a little enlarged. Upper side of the thorax only with thin, brownish-yellow dust. Coxæ and hind femora black with metallic-green lustre, which is most distinctly seen on the latter. The tip of the fore coxæ yellow; fore feet yellow; femora on the upper side with a black longitudinal stripe, the tarsi infuscated from the tip of the first joint; middle feet entirely yellow; the tarsi infuscated only from the tip of the first joint; on the hind feet the extreme tip of the femora, the tibiæ and the greater part of the first joint of the tarsi are of a pale color. The hair upon the feet is short and rather delicate, the bristles only few, though the little bristles on the hind tibiæ are rather long. The pale hairs on the cilia of the tegulæ seem to have, in some directions, a dark appearance. Wings only slightly tinged with gray, with dark brown veins. The posterior transverse vein approaches but little the root of the wing, and is somewhat farther from it than in most of the other species.

Hab. Middle States. (Osten-Sacken.)

B. Ground color of the palpi blackish.

1. Cilia of the tegulæ black.

4. C. obliquus Loew. ♂ and ♀.—Viridis, nitens, tegularum ciliis nigris, femoribus nigris viridi-micantibus, summo anteriorum apice flavo.

♂. Oculis contiguis, tertio antennarum articulo obliquo, tibiis anterioribus flavis.

♀. Tibiis omnibus flavis.

Shining-green; cilia of the tegulæ black; femora black, with green lustre; the extreme tip of the four anterior femora yellow.

♂. The eyes contiguous; the third joint of the antennæ oblique; the four anterior tibiæ yellow.

♀. All the tibiæ yellow. Long. corp. 0.09—0.10. Long. al. 0.09—0.10.

Syn. *Chrysotus obliquus* Loew, Neue Beitr. VIII, 63, 3.

Male. Eyes completely contiguous upon the face; the small triangular spot between them, immediately below the antennæ, is covered with brown-gray dust; the very small palpi black. The third joint of the antennæ comparatively with long hair, rather large, oblique, its upper margin much more arched than the lower margin, which is almost straight; the arista is subapical. Front metallic-green, without a distinct trace of dust, and becoming broader upwards. Thorax shining green, sometimes rather gold-green. Coxæ and femora black with metallic-green lustre; on the four anterior feet the extreme tip of the femora, the tibiæ and the greater part of the first joint of the tarsi are yellow, the following part of the tarsi black-brown; the hind tibiæ and hind tarsi are decidedly of a brown-black color. The hair upon the feet, though somewhat rough, is short, and even on the hind tibiæ of very moderate length; the hind femora have on the under side before the tip but a few bristle-like hairs; the bristles on the tibiæ are very scarce; the pulvilli are very small even on the fore tarsi. Cilia of the tegulæ black, though some of them exhibit in a reflected light a yellow-brownish glitter. Wings somewhat tinged with gray; veins black; the posterior transverse vein very close to the root of the wing; the last segment of the fourth longitudinal vein parallel to the third and ending a little before the tip of the wing.

Female. Face of moderate breadth with grayish-white dust upon rather black ground; the usual transverse swelling is far below its middle. Palpi blackish, the third joint of the antennæ smaller than that of males, and its oblique form less striking. The brownish-yellow dust on the upper side of the thorax somewhat more dense than in males. The color of the four anterior feet like that of the males; the hind tibiæ yellow with a somewhat dusky tip; hind tarsi dark brown, the first joint is sometimes more yellowish-brown near the basis. Wings like those of the male, only the anal angle somewhat more protruding.

Hab. New York. (Osten-Sacken.)

Observation.—I have no ground for doubting that these two sexes belong together, as all those characters which distinguish the male from the female are within the range of the sexual distinctions peculiar to this genus, and the agreement of all the other characters is very striking.

5. C. affinis Loew. ♂ and ♀.—Viridis, nitens, tegularum ciliis nigris, femoribus nigris viridi-micantibus, summo anteriorum apice ex flavo piceo.

♂. Oculis contiguis, tertio antennarum articulo subobliquo, tibiis anticis ex flavo piceis.

♀. Tibiis anterioribus ex flavo piceis.

Shining green, cilia of the tegulæ black; femora black with green lustre; the extreme tip of the four anterior femora yellow-brownish.

♂. Eyes contiguous; the third joint of the antennæ but little oblique; the fore tibiæ yellow-brownish.

♀. The four anterior tibiæ yellow-brownish. Long. corp. 0.09—0.10. Long. al. 0.10.

Syn. *Chrysotus affinis* Loew, Neue Beitr. VIII, 64, 4.

Male. It is so much like the male of *C. obliquus,* that a statement of the differences will be sufficient for its recognition. The third joint of the antennæ is visibly smaller and less oblique; the hind femora have upon the second part of their under side a greater number of bristle-like black hairs; finally the hair upon the hind tibiæ is much longer; the feet are considerably darker; fore tibiæ more yellowish-brown than yellow and towards their tips distinctly dusky; middle tibiæ often almost brown-black, but always with a yellowish-brown basis; middle tarsi entirely black-brown; fore tarsi only near the basis of a pale brown color. I have not discovered any other differences.

Female. I have only a single female, which I think belongs here. It resembles the female of the preceding species very much, only the fore tibiæ are more of a brownish-yellow color and dusky towards the tip; the middle tibiæ are still darker than the fore tibiæ and the hind tibiæ are like those of the male, black. The third joint of the antennæ is somewhat smaller than in the females of *C. obliquus.*

Hab. Middle States. (Osten-Sacken.)

6. C. vividus, nov. sp. ♂.—Viridis, nitens, ciliis tegularum nigris, femoribus nigris viridi-micantibus, genibus tibiisque flavis, maris oculis distantibus et costâ alarum non incrassatâ.

Green, shining, cilia of the tegulæ black, femora black with green lustre, knees and tibiæ yellow; in the male, the eyes separated and the costa not thickened. Long. corp. 0.09. Long. al. 0.09.

Metallic-green, bright, but on the upper side of the thorax with a rather thick brownish-yellow dust and therefore more dull. The eyes are separated by the face, which is comparatively broad for a male; the face has a rather distinctly impressed middle line, is of a metallic-green color, but opaque on account of the cover of whitish dust. Palpi black, their whitish powder only becomes visible when seen in a very oblique direction. Antennæ black, of middle size, their third joint is somewhat longer than in most of the other species, hairy, and of a somewhat irregular form, because that part, where the arista is inserted, is somewhat produced in the shape of a lobe. Front metallic-green, dull on account of brownish-yellow dust. Coxæ and femora black, the latter with a green metallic lustre; the second joint of the fore coxæ, the tips of all the femora, all the tibiæ and all the tarsi as far as the tip of the first joint, yellow, the end of the feet brownish-black. Hairs and bristles upon the feet very short, the bristles also very few in number. Pulvilli of the fore tarsi rather small. Cilia of the tegulæ black. Wings somewhat grayish, with a rather protruding anal angle; the costa shows no thickening; the last segment of the fourth longitudinal vein is scarcely a little inflected, parallel with the third and ends immediately before the extreme tip of the wing.

Hab. Illinois. (Le Baron.)

Observation.—It is not necessary, when identifying this species, to pay too much attention to the shape of the third joint of the antennæ, as it sometimes changes its form, especially when recently developed specimens dry up. The separated eyes, the black cilia of the tegulæ, the color of the feet, and the costa without a thickening, are characters which prevent its being confounded with any other species known to me.

2. Cilia of the tegulæ pale.

a. Costa of the male thickened.

7. C. costalis Loew. ♂ and ♀.—Viridis, polline confertissimo ex fusco cinereo opacus, femoribus nigris, genibus tibiisque flavis, maris oculis distantibus et mediâ costæ parte valde incrassatâ.

Green, opaque on account of a very thick brownish-gray dust; femora black; knees and tibiæ yellow; the eyes not contiguous in the male and the middle of the costa thickened. Long. corp. 0.09—0.10. Long. al. 0.09.

Syn. *Chrysotus costalis* Loew, Neue Beitr. VIII, 64, 5.

Male. Ground-color metallic-green, or blue-green, but so thickly covered with brown-gray dust as to conceal this color.

Face broad for a male, though a little narrower downward; the dust is of about the same color as the rest of the body, usually, however, somewhat paler. Palpi black, of middle size. The third joint of the antennæ small, kidney-shaped, with an entirely apical arista. Front quite opaque on account of its thick dust. The metallic-green ground-color of the upper side of the thorax becomes more visible only when seen from behind. Scutellum and abdomen less thickly covered with dust than the thorax, so that their metallic ground-color becomes more apparent in most directions. The hair upon the abdomen appears, in a reflected light, of a pale-brownish color. Coxæ and femora black, without a distinct green lustre, the second joint of the fore coxæ, the extreme tip of all femora, all the tibiæ and all the tarsi as far as the tip of the first joint, yellow; the end of the tarsi dark brown. The hair and bristles upon the feet very short everywhere, the bristles also very scarce; the pulvilli of the fore tarsi rather small. Cilia of the tegulæ pale. Wings somewhat grayish, with a rather protruding anal angle and of more uniform breadth than in most of the other species; the fore margin of the wings shows a strong black thickening, which commences abruptly at the end of the first longitudinal vein, becomes then gradually thinner and disappears already before the end of the second longitudinal vein; the last segment of the fourth longitudinal vein is not inflected at all, parallel with the third and ends rather exactly in the extreme tip of the wing; the posterior transverse vein is almost at an equal distance from the extreme root and from the tip of the wing.

Hab. Florida.

Female. It resembles the male very much, only the dust upon the whole body is more thick and the green ground-color of the abdomen less bright. The face is not very broad for a female; its covering of thick dust has the same color as that on the rest of the body; although the usual transverse swelling lies somewhat below the middle of the face, it is considerably higher than in the females of all the other species known to me, so that the face is divided by it into two almost equal parts. The wings have the same shape of equal breadth as in the male, show however no trace of a thickening on the fore margin.

Hab. Maryland. (Osten-Sacken.)

8. C. subcostatus, nov. sp. ♂.—Viridis, polline raro ex fusco cinereo aspersus, femoribus nigris, viridi-micantibus, genibus tibiisque flavis, maris oculis distantibus et mediâ parte costæ modice incrassatâ.

Green, sparsely covered with brownish-gray dust; femora black, with green lustre; knees and tibiæ yellow; the eyes in the male separated, and the costa moderately thickened. Long. corp. 0.09. Long. al. 0.09.

Metallic-green or blue-green, upon the thorax with not very thick brownish-gray dust and therefore less shining. Face for a male rather broad, towards the bottom somewhat narrower, with very thick brownish-gray dust. Palpi near the root and margin blackish, upon the middle more brownish; it was not possible to distinguish their color with certainty in the described specimens. Third joint of the antennæ very small; arista apical; front quite opaque on account of a covering of brownish-gray dust. The scutellum and especially the abdomen have very little dust and are shining. The hair upon the abdomen is black. Coxæ and femora black, the latter with a very bright green metallic lustre; the second joint of the fore coxæ, the tip of all femora, the tibiæ and all the tarsi as far as the end of the first joint, yellow; the tip of the tarsi dark brown. The hairs and bristles upon the feet everywhere very short, the bristles at the same time very scarce. Pulvilli of the fore tarsi rather small. Cilia of the tegulæ whitish. Wings grayish with a rather protruding anal angle; the anterior margin of the wings shows a not very strong, but distinctly visible thickening, which begins abruptly at the end of the first longitudinal vein and thence gradually decreases towards the tip of the wing; the last segment of the fourth longitudinal vein is scarcely a little inflected, parallel with the third, and ends a little before the extreme tip of the wing; posterior transverse vein rather equidistant from the root and the tip of the wing.

Hab. Illinois. (Le Baron.)

Observation.—*C. subcostatus* is easily distinguished from the male of *C. costalis* by the smaller antennæ, the less thickened costa, the thinner cover of dust, and the green metallic lustre of the femora; from all other species it is distinguished by the thickening of the costa.

b. Costa of the male not thickened.

9. C. discolor Loew. ♂ and ♀.—Viridis, nitens, femoribus concoloribus, genibus, tibiis venisque alarum flavis, maris oculis distantibus et abdomine violaceo.

Shining green, also the femora; knees, tibiæ and veins of the wings yellow; eyes of the male separated and its abdomen violet. Long. corp. 0.09—0.10. Long. al. 0.10—0.11.

Syn. *Chrysotus discolor* Loew, Neue Beitr. VIII, 65, 6.

Male. Shining green. The face rather broad for a male, a little narrower towards the bottom, with yellow-grayish or rather white-grayish dust upon green ground. Palpi rather small, black. The third joint of the antennæ not very large with an apical arista. Front with rather thick brownish-yellow dust upon green ground. The upper side of the thorax and the scutellum bright golden-green, the posterior end of the former and the latter sometimes more blue-green. The brownish-yellow dust on the upper side of the thorax is distinct, but not sufficient to conceal the ground-color. The upper side of the abdomen is bright violet, the basis of the first segment and the lateral margin steel-blue or blue-green. Coxæ black-green. Femora dark metallic-green. The tip of all the femora and the tibiæ yellow; the four anterior tarsi become dusky from the basis so gradually that it is difficult to state where the infuscation begins; on the hind tarsi the yellow coloring extends much farther, so that only the last joints exhibit a distinct dusky tinge. The pulvilli are rather large, especially on the fore tarsi. The hairs and bristles upon the feet are everywhere very short, on the tibiæ and tarsi yellowish, with the exception of the stronger bristles at the tip of the middle tibiæ. The cilia of the tegulæ are pale. Wings hyaline, scarcely a little tinged with gray, with luteous veins, which become a little more dark towards the tip of the wing; the last segment of the fourth longitudinal vein is parallel to the third and ends exactly at the tip of the wing; the posterior transverse vein lies rather exactly in the middle between the extreme root and the tip of the wing; the anal angle of the wings is rather protruding.

Female. It differs from the male by the following marks: The face broader, but not too much for a female; the usual transverse swelling is far below its middle. The third joint of the antennæ somewhat smaller than that of the male. The abdomen golden-green, without any trace of a violet coloring. The pulvilli of all the tarsi are very small.

Hab. Middle States. (Osten-Sacken.)

10. C. auratus Loew. ♀.—Viridis, thorace et scutello auratis, polline lutescente subopacis, femorum nigrorum apice tibiisque omnibus flavis, facie latiusculâ albido-pollinosâ, palpis nigris.

Green, thorax and scutellum gilded, somewhat dull on account of a luteous dust; the tip of the black femora and all the tibiæ yellow; the rather broad face covered with white dust; palpi black. Long. corp. 0.11. Long. al. 0.11.

Syn. *Chrysotus auratus* Loew, Neue Beitr. VIII, 65, 7.

Metallic-green. Face even for a female rather broad, with gray-white dust; the usual transverse swelling lies very far below its middle. Palpi black. The third joint of the antennæ rather large for a female, with comparatively long hair. Front golden-green, rather dull on account of a yellowish dust, only a little broader upwards. The upper side of the thorax greenish-golden, but thickly covered with yellow dust and therefore opaque. Color and dust of the scutellum the same as those of the thorax. Abdomen of a purer metallic-green and with less dust, near the basis usually more golden-green. Coxæ black, the extreme tip of the first joint and the second joint of the fore coxæ yellow, the second joint of the hind coxæ yellowish-brown. Femora black with indistinct green or bronze-colored metallic lustre; the tip of the four anterior femora is to a larger, and that of the hind femora to a smaller extent, yellow. The tibiæ and the tarsi have the same color, but the latter, towards their end, gradually become dusky. The hair upon the feet is everywhere very short, and the bristles very scarce. Cilia of the tegulæ pale. Wings somewhat grayish with brown veins; the posterior transverse vein lies about midway between the extreme root and the tip of the wing.

Hab. New York. (Osten-Sacken.)

B. Femora of a pale color.

11. C. pallipes Loew. ♂ and ♀.—Viridis, nitens, coxis anticis pedibusque flavis.

Shining green, the fore coxæ and the feet yellow. Long. corp. 0.09—0.10. Long. al. 0.10—0.11.

Syn. *Chrysotus pallipes* Loew, Neue Beitr. VIII, 66, 8.

Both sexes resemble each other very much. Metallic-green, shining. The eyes of the male meet almost completely, so that the face appears small, linear; in the female it is broader and has the usual transverse swelling far below its middle. The dust upon it is white in both sexes. The palpi are rather small and covered with whitish dust so as to conceal the ground-color, which appears to be more yellowish than blackish. The third joint of the antennæ is not large, even in the males, and but little oblique. Front green, rather dull from whitish dust. The upper side of the thorax has a distinct whitish dust, which however does not conceal the ground-color. The black hair upon the abdomen is somewhat longer than in most of the other species. The whole fore coxæ, the tip of the middle and hind coxæ and the whole feet are yellow, even the tarsi are only slightly dusky towards the tip. Cilia of the tegulæ pale. Wings a little grayish, with brownish or brown veins; the posterior transverse vein lies considerably nearer to the root than to the tip of the wing.

Hab. Middle States. (Osten-Sacken.)

12. C. picticornis, nov. sp. ♂.—Minutus, viridi-aeneus, modice nitens, oculis infra antennas contiguis, primo antennarum articulo rufo, coxis anticis pedibusque flavis.

Small, bronze-green, moderately bright; the eyes contiguous below the antennæ; first joint of the antennæ red; fore coxæ and the feet yellow. Long. corp. 0.08. Long. al. 0.08.

Very small, bronze-green, moderately shining. The eyes contiguous below the antennæ. The antennæ small, the first joint red, the following two black, the third rather small and a little oblique; arista apical. Fore coxæ and feet somewhat brownish-yellow. The tip of the hind femora on the upper side and all the tarsi from the tip of the first joint, brown. The hind tibiæ are fringed on the upper side only with a few delicate, not very conspicuous bristles, and show a dusky tinge at the tip. The color of the cilia of the tegulæ I cannot positively state. Wings of the usual structure, grayish-hyaline with brownish-black veins; the posterior transverse vein is rather short and lies before the middle of the surface of the wings.

Hab. Illinois. (Le Baron.)

Observation.—This description is made only after a single specimen, and will probably require some correction; the color of the first joint of the antennæ is so characteristic for this species, that there is no probability of its being mistaken for another.

Gen. XXXI. **TEUCHOPHORUS.**

The genus *Teuchophorus* remains hitherto confined to but a few European species. They rather resemble the small species of *Chrysotus*, but are easily distinguished from them by the following characters: Antennæ smaller; arista distinctly dorsal. The abdomen of the male somewhat compressed laterally. The posterior transverse vein, which is far distant from the margin of the wing, has an extremely steep position, so that its posterior end is farther from the root of the wing than its anterior end. The feet of the male are fringed with isolated, strong, stiff bristles, and its hind tibiæ are curved and adorned in various manners. Besides, in all the hitherto known species, the costa of the male is thickened in the same manner as that of the previously described *C. costalis*. The other characters of the genus coincide with those of *Chrysotus*.

The name of the genus (from τεῦχος, armor, and φέρω, I bear) has probably reference to the peculiar organs with which the male is provided.

Gen. XXXII. **SYMPYCNUS.**

Characters. Small, but little shining species, of a rather slender shape. The face is not narrower upwards. Antennæ rather small, in the female shorter than in the male; the first joint without hairs; the arista is inserted upon the edge of the third joint in the vicinity of its basis. The metathorax is not unusually protruding nor elongated. The abdomen of the male is more or less compressed laterally. The hypopygium is small, more or less imbedded; its outer appendages small, sometimes not distinctly visible. The fourth longitudinal vein, towards its end, is perceptibly, although only slightly, approximated to the third and very little convergent towards it; it ends somewhat before or into the tip of the wing; the posterior transverse vein before or upon the middle of the wing, distant from its margin; the sixth longitudinal vein becomes indistinct long before it reaches the margin of the wing.

The feet are sparely fringed with bristles; the hind tarsi shorter than the hind tibiæ and their first joint without bristles.

The genus *Sympycnus* stands in the closest proximity to *Anepsius*, is, however, very easily distinguished from it by the glabrousness of the first joint of the antennæ. Among the genera which have no hair upon the first joint of the antennæ, *Xanthochlorus*, *Teuchophorus* and *Campsicnemus* are the next to it; they differ from *Sympycnus* by the following characters: 1. *Xanthochlorus* by the depression on the posterior end of the thorax and the prevailing yellow color of the body and of the bristles upon the thorax; 2. *Teuchophorus* by the steeper position of the posterior transverse vein, the thickening of the costa in the male, the isolated and strikingly strong bristles upon the feet and the entirely hidden hypopygium; 3. *Campsicnemus* by the elongated metathorax, by the last segment of the fourth longitudinal vein, which is parallel to the third and ends always beyond the tip of the wings and by the face of the male, which is very narrowed upwards, &c.

The name of the genus (from σύμπυκνος, crowded together) has reference to the crowding together of the ends of the fourth and the third longitudinal veins, whereby *Sympycnus* is distinguished from *Campsicnemus* and many other related genera.

I am only acquainted with species from Europe, Africa and North America; the majority of the North American species differ from the European and from the South African species by the fourth longitudinal vein ending exactly into the tip of the wing, while in the other species, this end is distinctly before the tip. As they agree in all other details of organization, there is no ground for a generic separation, but it would be advisable to form of them a group within the genus *Sympycnus*. The character of the genus *Sympycnus*, as hitherto established, requires, with regard to these species, a slight modification, which I have already introduced.

Table for the determination of the Species.

1	**Fourth longitudinal vein ending before the tip of the wing.**	**1 tertianus**, nov. sp.
	Fourth longitudinal vein ending into the tip itself.	2
2	**Antennæ entirely black.**	**2 frontalis** *Lw.*
	Antennæ pale near the basis.	3
3	**Thorax with dark longitudinal lines.**	**3 lineatus** *Lw.*
	Thorax without dark longitudinal lines.	**4 nodatus** *Lw.*

Systematical arrangement of the Species.

I. The fourth longitudinal vein ending before the tip of the wing.

1. **tertianus**, n. sp.

II. The fourth longitudinal vein ending into the tip itself.

2. **frontalis** *Lw.*
3. **lineatus** *Lw.*
4. **nodatus** *Lw.*

Description of the Species.

I. THE FOURTH LONGITUDINAL VEIN ENDING BEFORE THE TIP OF THE WING.

1. S. tertianus, nov. sp. ♂ and ♀.—Ex cinereo virescens, subopacus, thorace non lineato, duobus primis antennarum articulis, palpis, ventre, coxis pedibusque dilutissime flavicantibus, tarsis inde ab articuli primi apice nigricantibus.

♂. Articulo tarsorum posticorum tertio abbreviato et prope apicem pilis paulo longioribus hirto.

♀. Pedibus simplicibus.

Gray-greenish, rather dull; thorax without dark lines; the first two joints of the antennæ, palpi, venter, coxæ and feet pale-yellowish; the tarsi from the tip of the first joint blackish.

♂. The third joint of the hind tarsi shortened and rough on account of some longer hairs near the tip.

♀. Feet plain. Long. corp. 0.10. Long. al. 0.10.

Dark grayish-green, rather dull. The front seems to be of the same color. Face grayish. Palpi and the first two joints of the antennæ white-yellowish; the third joint blackish, in both sexes rather rounded. Arista in both sexes plain. Venter whitish-yellow as far as its tip. The hypopygium, as in the other species of this genus, rounded and semi-imbedded; its lancet-shaped exterior lamellæ small, but distinctly perceptible and of rather dark color. The posterior margin of the pleuræ and the coxæ white-yellowish; the four posterior coxæ near the basis more or less infuscated. Feet white-yellowish, with black, somewhat scattered hairs, on the middle and the hind tibiæ with a few black bristles. The tarsi from the tip of the first joint very much infuscated, the hind tarsi from the same spot almost entirely black. The joints of the fore tarsi of decreasing length in the female, while in the male the third and fourth joints are of about the same length. The joints of the middle tarsi are of decreasing length in both sexes. The first joint of the hind tarsi is, in both sexes, a little shorter than the second; the following joints are, in the female, of decreasing length; in the male the third joint is somewhat shorter than the fourth, and at its end, on the posterior side, beset with longer black hairs. Wings towards the basis very much narrowed; the posterior transverse vein is before the middle of the disk of the wing, but rather exactly in the middle between the extreme root and the tip of the wing; the fourth longitudinal vein ends somewhat before the extreme tip of the wing; in the female, however, at a very small distance from it.

Hab. Sitka. (Sahlberg.)

II. THE FOURTH LONGITUDINAL VEIN ENDING INTO THE TIP OF THE WING.

2. S. frontalis LOEW. ♂ and ♀.—Nigricans, fronte læte violaceo splendente, antennis totis nigris.

Blackish; the front bright violet; the antennæ entirely black. Long. corp. 0.11. Long. al. 0.12—0.13.

SYN. *Sympycnus frontalis* LOEW, Neue Beitr. VIII, 67, 1.

Face in the female of moderate breadth, in the male below very narrow, towards the antennæ broader, with white dust, so that the blue ground-color becomes very little visible. Antennæ black, larger than in the next following species; the first joint rather long; the third joint only with a very short pubescence, larger and ovate in the male, smaller and rather rounded in the female. Front bright steel-blue or violet. Cilia of the inferior orbit whitish. Upper side of the thorax dull on account of a thick gray-brownish dust, nevertheless the green or blue ground-color is distinctly visible through the dust. The scutellum is of the same color as the upper side of the thorax, and has no hairs besides the usual bristles. Abdomen black or greenish-black, the second segment usually with a complete or almost complete yellowish transparent transverse band, the third segment with one, which is interrupted in the middle; moreover the first and fourth segments are usually yellowish-transparent on the lateral margin. The venter is always white-yellowish. The hypopygium, of the same color as the abdomen, is somewhat larger than in the other species of this genus known to me, and but very little imbedded; its outer appendages are so small and hidden that I cannot distinctly perceive their shape. The posterior margin of the pleuræ, all the coxæ and the feet yellowish. Fore coxæ only with pale hairs. The femora have, besides the usual small bristles immediately before the tip, no other bristles. The fore tibiæ are without bristles, the middle and hind tibiæ with but few bristles. The fore tarsi are more or less infuscated towards their tip; in the female the joints are of decreasing length, the first nearly as long as the three following together; in the male, on the contrary, the first joint is extremely shortened and not quite as long as the last one, the second almost as long as the two following together, the third considerably shorter than the fourth joint, which latter is fringed on its upper side with little curved hairs. The joints of the middle tarsi, which towards their end become more and more dusky, are of decreasing length in the female; in the male their first joint is considerably longer than the following four joints together, the second as long as the following three together, the third and fourth of almost equal length, but very short, on the anterior side bearded with delicate little fringe-like hairs; the fifth joint is somewhat more slender than the two preceding joints and almost as long as these taken together. The hind tarsi, from the tip of the first joint, are more or less infuscated, the first joint much shorter than the second, and the following joints of decreasing length in both sexes. The tegulæ with pale-yellowish cilia. Wings rather long and narrow, but moderately pointed towards the root, in the female less tinged with gray than in the male; the fourth longitudinal vein is parallel with the third and ends rather exactly into the tip of the wing; the posterior transverse vein is perpendicular and lies before the middle of the wing.

Hab. Pennsylvania. (Osten-Sacken.)

3. S. lineatus Loew. ♂ and ♀.—**Cinereus, fronte nigrâ, antennarum basi, scutelli margine, ventre pedibusque flavis.**

Gray, front black; the root of the antennæ, the margin of the scutellum, the venter and the feet yellow. Long. corp. 0.10—0.11. Long. al. 0.11—0.12.

Syn. *Sympycnus lineatus* Loew, Neue Beitr. VIII, 67, 2.

Brownish-cinereous, opaque. Face covered with whitish dust upon black ground; in the female it is rather narrow, in the male so much narrowed that the eyes are contiguous on the lower part of the face. Palpi rather blackish. Antennæ rather short, the third joint smaller than in the next preceding species, in the male elongated-ovate, in the female considerably shorter, in both sexes with a basal arista; the first joint is always of a yellowish color, the two following paler or darker brown, sometimes rather blackish. Front black. Cilia of the inferior orbit pale. Upper side of the thorax brownish-cinereous, entirely opaque; the humeral corner usually brownish-yellow; on its upper side there are several dark longitudinal lines, the more distinct of which are usually a delicate middle line and two stronger lines alongside of it; the latter bear the middle rows of bristles. These lines disappear, however, when looked upon from another direction, and are not equally distinct and sharply defined in all specimens. Scutellum on the middle of the upper side gray with a metallic-blue lustre, on the margin yellow. Pleuræ gray, their inferior portion more yellow. The metathorax blackish-gray. Abdomen in well colored specimens brownish-gray, in less matured ones more yellowish-brown; the whole venter always pale-yellowish. The small hypopygium is mostly shining black and rather imbedded; the outer appendages are larger than usual in the species of this genus and have almost the form of small filiform lamellæ; their color is a dingy yellowish-brown. Coxæ and feet yellowish. Femora only with the usual bristles immediately before the tip. Fore tibiæ without bristles. Middle and hind tibiæ with a moderate number of short black bristles. The first joint of the fore tarsi about as long as the three following, which are of decreasing length, most of the fourth and the whole fifth joint black-brown. Middle tarsi from the tip of the first joint more or less dusky; their first joint about as long as the four following together, which are of decreasing length. The first joint of the hind tarsi much shorter than the second, the following of decreasing length. Tegulæ with brown margin and with pale-yellowish cilia. Wings tinged with gray, in the male with a cuneiform tapering towards the basis; this is not the case in the females; the fourth longitudinal vein is parallel with the third and ends rather exactly into the tip of the wing; the posterior transverse vein is perpendicular and lies rather upon the middle of the wing in the female, considerably beyond it in the male.

Hab. Virginia; New York. (Osten-Sacken.)

4. S. nodatus Loew. ♂ and ♀.—Cinereus, margine primi antennarum articuli infero, fasciâ abdominis basali maculisque lateralibus, ventre et pedibus flavicantibus, femorum posticorum apice nigro, setâ antennali maris capitulum minutum apicale gerente.

Gray, the lower margin of the first joint of the antennæ, a band near the basis of the abdomen, lateral spots upon it, venter and feet, yellowish; the tip of the hind femora blackened; the arista of the male at the tip with a small button. Long. corp. 0.10—0.11. Long. al. 0.11—0.12.

Syn. *Sympycnus nodatus* Loew, Berl. Ent. Zeitsch. VI, 215, 68.

Face of the male very narrow, upwards a little broader, with white dust; the face of the female much broader, not perceptibly narrowed below, and much less thickly dusted, so that the black ground-color is distinctly apparent. Antennæ of a stouter structure, and even a little larger than in *S. frontalis;* the first joint rather long, upon the under side always of a yellowish color, sometimes yellow, with the only exception of its upper edge, in which case the yellow coloring extends also on the lower edge of the second joint; the third joint in the male is broad ovate, in the female rounded. Arista basal, in the female somewhat shorter and plain, in the male longer and enlarged at the tip into a small button. The front is gray, but appears in some directions almost black. Upper side of the thorax brownish-gray, opaque, without distinct longitudinal lines, with black bristles. Scutellum usually darker than the upper side of the thorax and without hairs, except the usual bristles. Pleuræ whitish slate-gray, their posterior margin yellowish. Abdomen of a bronze-black, moderately bright coloring, sometimes with a green or blue metallic lustre; upon the second segment there is a very broad, usually interrupted, transverse band; upon the third segment there is also a transverse band, usually interrupted in the middle, and consisting of two yellow lateral spots; the fourth segment has usually a yellow spot on each side. The hypopygium, being of the same color as the abdomen, is of a similar structure as in *S. frontalis;* its small, not easily perceptible, appendages are black. Coxæ and feet yellowish. The fore coxæ are covered only with whitish hair, nevertheless the stronger hairs on the tip assume sometimes a blackish appearance. The femora without any other bristles but those small ones, usually found before the tip; the hind femora are of a brownish-black color to a rather large extent, though their extreme tip is again paler. The fore tibiæ have only a single small bristle, which is on their upper side, not far from the root; the middle tibiæ have only a few bristles; the hind tibiæ have a larger number of bristles, but they are mostly very short; in the male there is one bristle on the under side, not far from the basis, which is remarkable for its length. The fore tarsi have 1½ the length of the tibiæ; in the male the first joint is very much shortened and not as long as the last one, the second is as long as the three following together, and usually a little blackened on the extreme tip, the three last ones are black and very little decreasing in length; the last one with somewhat shorter hairs than the two preceding; in the female the fore tarsi are gradually of a darker black-brownish color towards the tip, and their joints are of a decreasing length, the first somewhat longer than the two following, but not quite so long as the three following together. The middle tarsi of the male but little exceed the tibiæ in length; their first joint is of a plain structure, but almost 1½ the length of the other joints and blackened at its tip; the last four joints are black; the second is as long as the last three together, gradually enlarged towards its end, and at the end on the outside, in consequence of the greater length of the appressed black pubescence, elongated into a kind of projection; the third and fourth joints have on the posterior side a few erect crooked hairs. The middle tarsi of the female are plain, scarcely shorter than those of the male, towards the tip gradually of a darker black-brown color; their joints are of a decreasing length; the first is longer than the following two, but shorter than the following three together. The hind tarsi are of the same structure in both sexes, shorter than the tibiæ; their last four joints black; the first joint is scarcely longer than the third, the second at least as long as the third and fourth together. Halteres yellowish. Tegulæ with a narrow black margin; their cilia appear yellowish in a reflected light, seen towards the light, however, blackish, in the female even often black. Wings grayish hyaline, in the male with the posterior margin somewhat wavy, and towards the basis much more pointed than in the female; the fourth longitudinal vein is parallel to the third and ends precisely at the tip of the wing; the posterior transverse vein is perpendicular and lies upon the middle of the wing.

Hab. Illinois. (Le Baron.)

Gen. XXXIII. CAMPSICNEMUS.

Characters. The first joint of the antennæ without hairs on the upper side; the third more or less pointed, distinctly hairy; the arista inserted on its back, near the basis. Face upwards very narrow, especially in the male. The metathorax is elongated; the abdomen flattened. The small hypopygium imbedded; its appendages extremely small. Feet slender; the first joint of the hind tarsi without bristles. The males are usually remarkable by the peculiar structure of their tibiæ and often also of the tarsi. The last segment of the fourth longitudinal vein, about its first quarter, runs over a distinct convexity of the wing, is parallel to the third longitudinal vein and ends beyond the tip of the wing.

The genus *Campsicnemus* possesses so many remarkable characters that the species belonging to it cannot either be mistaken or confounded with species of another genus. The name of the genus (from κάμψις, the curve, and κνήμη, the tibia) was given because the males of many species are distinguished by the peculiar curvature of their middle tibiæ.

The species hitherto known belong to Europe and North America.

Description of the Species.

1. C. hirtipes Loew. ♂ and ♀.—Obscure olivaceus, facie ochraceâ, alis infuscatis, coxis anticis pedibusque ex testaceo rufis, tarsis præter basim ex fusco nigris.

♂. Primo tibiarum intermediarum dimidio incrassato, tarsisque anticis setas longiores gerentibus.

♀. Pedibus simplicibus.

Dark olive-brown, face ochre-colored; wings blackish-gray; fore coxæ and feet brownish-red; tarsi black-brown with the exception of the root.

♂. The thickened basal half of the middle tibiæ and the fore tarsi beset with long bristles.

♀. Feet plain. Long. corp. 0.08. Long. al. 0.13.

Syn. *Campsicnemus hirtipes* Loew, Neue Beitr. VIII, 68, 1.

Metallic olive-brown. Face very narrow, yellowish-brown, with a bright golden-green spot immediately under the antennæ, which is not always easily discernible. Antennæ entirely black; their third joint in the male long and pointed, in the female short and small. Front black with a violet, often very bright lustre, immediately above the antennæ with a pale copper-reddish spot. The cilia on the inferior orbit pale. The upper side of the thorax often shows violet reflections. The scutellum shining violet, rarely shining black with an indistinct violet lustre. The color of the abdomen is usually more greenish-black. Fore coxæ brownish-yellow, near the basis blackened; middle and hind coxæ black with brownish-yellow tip. Feet yellowish-red or brownish-red. The extreme tip of the knees blackish-brown and the tarsi from the tip of the first joint black. Sometimes the upper side of the femora is distinctly infuscated. Cilia of the tegulæ black. Wings tinged with blackish-gray and with black veins; the convexity of the wings lies before the first quarter of the last segment of the fourth longitudinal vein.

Male. Its fore femora are thickened as far as their middle, and on the under side, precisely at the end of this thickening, they are densely bearded with stiff little bristles; the fore tibiæ are visibly stouter than in the female, beset on the under side with numerous and erect, on the upper side with less numerous and less erect bristles; fore tarsi with unusually long hairs, especially on their first two joints. The structure of the middle femora is similar to that of the fore femora, though their thickening is less strong and reaches as far as the tip; the thick beard on the under side, formed of short stiff bristles, is thus brought nearer to their end. The middle tibiæ are of rather irregular structure; from the basis to about their middle they are distinctly thickened and fringed on the upper side with a few long black bristles, on the under side they are provided with a small tubercle, beset with short bristles. That part of the middle tibiæ, which is not thickened, is of a plain structure, though beset on the under side with a row of rather long, black, bristle-like hairs. The middle tarsi and the whole hind feet are of a plain structure.

Hab. Pennsylvania. (Osten-Sacken.)

2. C. claudicans, nov. sp. ♂ and ♀.—Olivaceus, facie ochraceâ, alis infuscatis, punctum nigrum in ultimo venæ quartæ segmento gerentibus, coxis anticis ex testaceo fuscis, pedibus ex rufo testaceis.

♂. Tibiis intermediis crassissimis, varis, supra nigro-spinulosis, tarsis intermediis totis nigris, articulo primo crasso, recurvo, supra nigro-setoso, tarsis anticis posticisque simplicibus, inde ab articuli primi apice nigris.

♀. Pedibus simplicibus, tarsis omnibus inde ab articuli primi apice nigris.

Olive-green; the face ochre-yellow; wings infuscated, with a black spot upon the last segment of the fourth longitudinal vein; fore coxæ reddish-brown; feet brownish-red.

♂. Middle tibiæ very stout, crooked, on the upper side with small black spines; the middle tarsi entirely black; their first joint thickened, curved upwards, on the upper side with black bristles; fore and hind tarsi plain, from the tip of the first joint black.

♀. All the feet plain; all the tarsi from the tip of the first joint, black. Long. corp. 0.09. Long. al. 0.14.

Olive-green; thorax more bright than the abdomen, near its fore margin with a few strikingly green reflections. Front blackish-blue. Antennæ entirely black; the third joint small and not pointed. Face brownish ochre-yellow. Palpi ochre-brownish. Proboscis black. Cilia of the posterior orbit black above, below pale. Fore coxæ brownish-red, sometimes yellowish-red, with a white reflection near the root and a large part of the outside brown; the four posterior coxæ grayish-black, the trochanters brownish-black. Feet yellowish-red; the knees, especially those of the hind feet, more or less infuscated; all the femora, the fore and hind tibiæ, as also the fore and hind tarsi are plain in both sexes, the latter blackened from the tip of the first joint. The middle tibiæ and middle tarsi are only in the female of the same plain structure and of the same color, while they are distinguished in the male by a very different structure; for its middle tibiæ are uncommonly stout and somewhat curved; the greatest thickness is in their middle; the last two thirds of the posterior side are excised and provided with a brown stripe; before this excision, almost on the upper side of the tibia, there is a longitudinal row of black spine-like bristles, which does not occupy, however, the basal third and the apical one-fourth of the tibia; the second half of the tibia bears upon the other two sides a few long black bristles; the middle tarsi of the male are entirely black; their first joint is somewhat curved upwards at the tip, stout and near the extreme basis a little more swollen, on the upper side excised furrow-like and fringed with a row of black bristles; the following joints are plain, the second not quite so long as the third, and at the extreme basis sometimes of a yellowish-brown color. Wings with a distinct smoky black tinge and with a small blackish spot upon the last segment of the fourth longitudinal vein.

Hab. Sitka. (Sahlberg.)

Gen. XXXIV. PLAGIONEURUS.

This genus has been established by me (in the Wien. Entom. Monatschr. I, 43) on the species described below, and known as yet only in the female sex, but the extraordinary and peculiar characters of which rendered the establishment of a new genus necessary. The whole habitus approaches the species of *Gymnopternus* and *Pelastoneurus* most, differs, however, from both by the first joint of the antennæ being entirely without hairs and by the posterior transverse vein having an unusually oblique position; from *Gymnopternus* it differs moreover by the course of the last segment of the fourth longitudinal vein, which is almost like that of the genus *Pelastoneurus.* The peculiarities of the female seem to indicate that the hypopygium of the male is disengaged.

The establishment of the characters of this genus on so scanty materials presents many difficulties. I believe, however, that the following may be regarded at least as a temporary definition. The first joint of the antennæ without hairs, the second not reaching thumb-like over the third, on the upper side much longer than on the under side; the third joint short, without distinct hair and with a dorsal arista. The posterior transverse vein very oblique; the last segment of the fourth longitudinal vein runs much forward in its second portion and ends in the vicinity of the third longitudinal vein, so that the first posterior cell becomes very narrow near its end. The first joint of the hind tarsi is without bristles.

The name of the genus (from *πλάγιος*, oblique, and *νεῦρον*, the nerve) has reference to the extraordinary obliqueness of the posterior transverse vein.

1. P. univittatus Loew. ♀.—Viridis, thoracis vittâ mediâ abdominisque fasciis latis purpureis, antennis pedibusque nigris, femoribus virescentibus, genibus tibiarumque anteriorum basi testaceis, alis cinereis.

Green, middle stripe of the thorax and broad bands of the abdomen of a purple color; antennæ and feet black, the knees and the basis of the four anterior tibiæ dusky yellow; wings gray. Long. corp. 0.25. Long. al. 0.23—0.24.

Syn. *Plagioneurus univittatus* Loew, Wien. Ent. Mon. I, 43.—Loew, Neue Beitr. VIII, 69.

Face not very broad for a female, somewhat elevated, upon its larger upper part with an impressed middle line; the smaller, convex lower part is separated from the upper part by a transverse swelling, incomplete in its middle; the dense, almost silvery-white dust, conceals a great deal of the ground-color of the face. Antennæ black. The third joint with a short, but sharp tip; the arista rather strong, with a very short but distinct pubescence. Front bright metallic blue-green. The cilia on the upper orbit black, on the entire lateral and lower orbits white. Thorax metallic-green, only on the fore and lateral margin with a little whitish dust, upon the middle with a not very sharply defined longitudinal stripe, which in some directions appears more black, in others more brown and purple, sometimes of a beautiful cinnamon-brown color. Scutellum metallic-green, with the usual two strong bristles, otherwise bare. On the segments of the abdomen the two first thirds have a dark, the last third a more pale color; the color of the former part shifts from black, through bronze-brown into a beautiful dark violet; on the last third the color is chiefly metallic-green, nevertheless it changes on the anterior part into steel-blue, and on the hind margin of the segment into golden-green or almost a coppery color; on the lateral margin the last third of the segments is covered with white dust. Coxæ black with a rather dusky-green lustre; the foremost with white dust, clothed with delicate white little hairs, and at the tip with a few black bristles. Feet black; femora with green lustre; knees brownish-yellow; this coloring extends on the fore tibiæ as far as the middle, on the middle tibiæ as far as the first third, while on the hind feet it is confined to the tip of the knee. The femora have on the under side from the basis almost as far as the tip, erect, but short, whitish hairs; otherwise their hair is black; middle and hind femora have on the front side before the tip a few insignificant black bristles. The hair upon the tibiæ is altogether black, very short, only on the upper side of the hind tibiæ somewhat longer, so that its great density is easily perceived; all the tibiæ are beset with short and not very numerous black bristles. Wings tinged with smoky gray, the veins brown-black; the posterior transverse vein is so very much oblique as to run parallel to the hind margin of the wing; the last segment of the fourth longitudinal vein approaches the margin of the wing rather closely, without changing its course, then, however, it suddenly turns towards the front, so as to end rather far from the tip of the wing in the vicinity of the third longitudinal vein.

Hab. Cuba. (Riehl.)

Observation.—This species is also found in Brazil.

Gen. XXXV. **LIANCALUS.**

The genus *Liancalus* shows the closest relationship to the genera *Scellus* and *Hydrophorus.* It agrees with them in the following characters: The body in general is beset with neither numerous nor long bristles. Wings elongated; the posterior transverse vein very closely approximated to the margin of the wing; feet elongated and slender; the first joint of the hind tarsi on the upper side without bristles, not shorter than the second, but in the majority of the species, longer. Face in both sexes broad, provided with a small tubercle upon the lowest third of each side of the orbit, and with an indistinct swelling running from one tubercle to the other. Antennæ rather short, the first joint without hairs; the apparently bare arista dorsal, distinctly two-jointed. The hypopygium of the male imbedded.

The above mentioned three genera differ sufficiently from the other genera of the *Dolichopodidæ* by the above stated characters, which they have in common. The genus *Liancalus* in particular, however, differs from *Scellus* and *Hydrophorus* in the following points: 1. All the femora are slender and unarmed, while the genera of *Scellus* and *Hydrophorus* have the femora very much thickened toward the basis, which at least in the males, is armed on the under side; 2. The segments of the abdomen are beset with bristles before the posterior margin, which is not the case in the species of *Scellus* and of *Hydrophorus.*

The genus *Liancalus* contains as yet only three European and one North American species. They form two groups; in the first the scutellum has only four bristles and the exterior appendages of the hypopygium are more lamelliform, while in the second the scutellum has six bristles and the exterior appendages of the hypopygium are filiform. To the first group belongs *Liancalus lacustris* Scop. and *leucostomus* Loew, to the second *L. virens* Scop. and the following North American species.

The name of the genus (from λείος, smooth, and ἀγκάλη, arm) has reference to the unarmed fore feet, by which it is distinguished from the next related genera of *Scellus* and *Hydrophorus*.

1. L. genualis Loew. ♂ and ♀.—Virescens, thoracis lineis quatuor abdominisque fasciis obscuris, pedibus ex nigro viridibus, genibus flavis, alis maris maculâ apicali nigrâ, guttam candidam includente, ornatis.

Greenish, four lines upon the thorax, and the bands upon the abdomen dark, feet blackish-green with yellow knees; the tip of the wing in the male with a black spot, which contains a snow-white drop. Long. corp. 0.26—0.28. Long. al. 0.31.

Syn. *Liancalus genualis* Loew, Neue Beitr. VIII, 70, 1.

Closely related to the European *L. virens* Scop. and very much like it, though differing from it in the neuration and the picture of the wings, as also by the greater length of the filiform appendages of the hypopygium. Blue-greenish, somewhat gray from pale dust. Face green or blue with rather whitish dust, which, however does not conceal the ground-color. The large black palpi, fringed with black and comparatively long hair, when seen from the side, usually appear entirely gray-yellowish on account of the dust, with which they are covered. Front green and somewhat spotted with whitish dust. Antennæ entirely black. The cilia of the posterior orbit black above, whitish below. The upper side of the thorax has two narrow, linear longitudinal stripes, separated by a reddish-gray middle line; these stripes are rather black in fully colored specimens; there are besides two lateral stripes, the posterior part of which is bifurcated near the transverse suture. Thus, not much is left of the beautiful blue-green color, except two broad longitudinal stripes, bearing the stronger bristles. Scutellum with six bristles, as in *L. virens*. The abdomen is provided with broad, copper-colored or bronze-brown, sometimes almost black, transverse bands, on the posterior margin of the segments; on the edge of these bands the ground-color of the abdomen changes often into yellowish-green. Coxæ, femora and tibiæ metallic black-green; the knees yellow; the tarsi black. Fore coxæ elongated, cylindrical, on the front side with long whitish hair, at the tip only with a few small black bristles. In the male the second joint of the fore tarsi is uncommonly shortened and somewhat thickened, so as to be the shortest of all joints, and almost as broad as it is long. Cilia of the tegulæ whitish.

Wings with black veins, hyaline, in the female with but few irregular gray spots upon the apical half, in the male moreover near the tip with a few grayish-black longitudinal stripes, and on the tip itself with a black spot, containing near the end of the fourth longitudinal vein anteriorly a round drop, which, the light falling through it, has a snow-white reflection; on the anterior margin of this drop, in the black, there is always a small paler spot. The outline of the wings in the male differs considerably from that of the female, being not only narrower, but also sinuated on their whole posterior margin in a peculiar manner. The exterior appendages of the short black hypopygium are two very long threads, which reach back almost as far as the basis of the abdomen, and which are beset on their whole length with very long pale hairs.

Hab. Middle States. (Osten-Sacken.)

Gen. XXXVI. **SCELLUS.**

Characters. First joint of the antennæ comparatively narrow, bare; the second short; the third rounded, elongated only in a hitherto undescribed European species, not excised on the edge. Arista dorsal, apparently bare, distinctly two-jointed. The front on the vertex but little deepened, a little narrower anteriorly. The eyes much higher than broad, encased below by the linear cheeks. Face of middling breadth, very long, reaching somewhat below the lower corner of the eye; its lowest sharply-edged part is separated from the narrowly-margined eyes by an incision, which turns away from the eyes on its upper end. Palpi recumbent, of middling and about equal size in both sexes. Proboscis stout. Upper side of the thorax upon its middle with but short bristles. Scutellum flat, with two bristles. Abdomen without bristles and only with scattered and very short hairs. The abdomen of the male has five segments; the first four are normally developed, while the fifth is usually shortened, often also of a different color; the following segment is formed by the short, half-imbedded hypopygium. At its lower end there are two small, dark lamellæ, directed obliquely downwards, which lie so close together as to present the shape of a stout, dentiform projection; besides these, the comparatively thick penis, bent downward and curved, may be seen, but no other appendages. Between the fourth and fifth abdominal segments of the male, however, two long, mostly pale-colored tape- or thread-like appendages protrude, which are turned either backward or outward; their place of insertion seems to forbid us to take them for representatives of the ordinary external appendages of the hypopygium; thus, we are led to regard as such the previously mentioned inferior appendages; if we do this, then the representatives of the interior appendages will be wanting, unless these same tape- or thread-like appendages are taken for them. If the point of insertion of the tape-like appendages was really at the place where they first appear on the outside, then the question would be solved, as in such a case they could not be considered as appendages of the hypopygium; that however, this is not the case, and that they rather originate much further inside, and proceed from there upwards between the fourth and fifth abdominal segments, before they reappear on the surface, can be distinctly seen in many specimens; to ascertain their true place of insertion requires the anatomical examination of fresh specimens, for which I have no opportunity at present. The form and position of the hypopygium and of its appendages in the males of *Scellus* has so many peculiar features, that it is difficult to arrive at a conclusion about the true meaning of its different parts. The female abdomen consists of five normally developed segments, followed by one segment more, which is shortened, retracted, and of a different color; the extreme, somewhat opaque tip of the female abdomen is beset with black bristles. The feet are generally bare, middle and hind feet much longer than the fore feet, and, except the thickening of their femora, which belongs to the males of some species, they are more slender than the fore feet; fore femora thickened towards the basis, on the under side with numerous bristles; fore tibiæ on the under side with bristles, elongated at the end into a large tooth, which is still larger in the males than in the females; the males have, moreover, a strong spine on the inside, not very far from the basis; the middle tibiæ of the male are variously decorated with long curly hairs and stiff bristles, while those of the female are plain; the hind tibiæ and the feet in both sexes plain, the joints of the latter of decreasing length; the empodium distinct. Wings long and narrow; the posterior transverse vein oblique and close to the margin of the wing; the third and fourth longitudinal veins converging, the sixth almost entirely obliterated or existing only as but a short rudiment.

In the genus *Liancalus* we have already mentioned the characters which this genus has in common with *Scellus* and *Hydrophorus*, as also those which distinguish *Scellus* from *Liancalus;* to the latter may be added the presence of the two appendages, peculiar to the males of *Scellus*. The presence of these appendages also distinguishes the species of *Scellus* from *Hydrophorus*, where they are entirely wanting. Moreover the under side of the fore femora and of the fore tibiæ in the species of *Scellus* is beset with long spines, catching into each other when the knee is bent, while in the species of *Hydrophorus* there are at the utmost some spine-like bristles on the under side of the fore femora near the basis, otherwise the under side of the fore femora and of the fore tibiæ is only beset with very short thorn-like bristles.

The name of the genus (from σκελλός, with crooked feet) has reference to the peculiar structure of the fore feet.

I know as yet only six species of *Scellus*, of which three are peculiar to North America, one is common to Europe and North America, and two are exclusively European; one of the latter species, occurring in Sweden, is as yet undescribed.

Table for the determination of the Species.

1	Wings entirely blackened.	1 **exustus** *Walk.*
	Wings not entirely blackened.	2
2	Apical half of the wings black.	2 **spinimanus** *Ztt.*
	Apical half of the wings not black.	3
3	Wings entirely tinged with blackish gray.	3 **avidus**, n. sp.
	Wings scarcely a little tinged with gray.	4 **filifer**, n. sp.

Description of the Species.

1. S. exustus Walk. ♂ and ♀.—Thoracis dorso æneo-nigro opaco, abdomine cupreo, latera versus viridi, nitidissimo, halteribus nigris, alis nigricantibus adversus costam nigris, lamellis analibus maris albis, in basi nigris, apicem versus flavis, in summo apice puncto nigro notatis.

The upper side of the thorax bronze-black, opaque; the abdomen copper-colored, laterally green, very bright; halteres black; wings blackish, towards the fore margin entirely black; the anal appendages of the male are white, near the root black, towards the tip yellow, at the extreme tip with a black spot. Long. corp. 0.22. Long. al. 0.26.

SYN. *Medeterus exustus* WALKER, Dipt. Saund. 211.
Scellus exustus LOEW, Neue Beitr. VIII, 71, 1.

Male. Black. The face rather narrow, opaque from a bright ochre-yellow dust. Antennæ black. Front covered with white dust. The middle of the upper side of the thorax is, at least in my specimen, black, opaque, and exhibits some traces of gray dust; towards the lateral margin it is more bright and shows a less distinct coppery reflection; on the lateral margin itself there is a broad longitudinal stripe covered with white dust. Scutellum with two bristles, opaque upon the middle, with a thin, almost imperceptible coat of white dust, bright on the sides. Pleuræ bronze-black, on the upper half with a dusky copper-colored reflection, on the lower half with a thin gray-whitish dust. Abdomen brilliant coppery-red, in a certain light it appears brass-colored upon the posterior segments, in an oblique direction even green; its first segment almost reddish-violet. The upper appendages, peculiar to the males of *Scellus*, are of a very considerable length, white, near the root black, somewhat enlarged at the tip, curved towards each other and of a yellow color, at the extreme tip black and provided with a tuft of pale hairs, which are turned backwards. Coxæ black, with a thin white-grayish dust, the foremost with extremely short pale hairs, with a few stiff black little hairs and near the tip with a few black bristles. Feet black, the femora more metallic green-black, with coppery reflections; the fore femora but short, very much thickened, toward the basis on the whole under side beset with bristles of different length, on the anterior side with a row of stiff black bristles; middle femora elongated, thin, gently curved, on the under side almost entirely bare; the hind femora near the basis of the under side are enlarged into a large blunt appendage, beset with large black spines, beyond this appendage there is an arch-like excision; then again they are stouter and beset on the under side with black bristles. The fore tibiæ, which are comparatively stout, bear on the front side, not far from the basis, a stout black thorn, their tip is elongated into a coarse tooth and their under side, which is beset with black bristles, has somewhat before this tooth a small excision; middle tibiæ long and rather slender; their first half has only three short bristles; the second is fringed on the front side with a row of short black bristles; upon the posterior side somewhat beyond the middle, there are a few long black bristles, and between these and the tip of the tibia, some long, curly black hairs. The hind tibiæ are much stronger than the middle tibiæ, their first half is stouter than the second and the front side before the tip is armed with a strong black bristle. Tarsi plain, their joints of decreasing length, the first joint of the middle tarsi with a few bristles. Halteres brownish-black. Wings blackish, all their veins broadly margined with black; the margins of the costa and of the first four longitudinal veins are entirely confluent, so that the anterior part of the wings appears altogether black; upon the middle of the posterior transverse vein and upon the curve of the last segment of the fourth longitudinal vein there is a black spot; the costal cell is of a dark brown color.

Female. The only female which I possess, is not as well preserved as the described male, especially the characters of the face cannot be recognized with certainty; I would therefore recall the circumstance, that the face of most of the females of *Scellus* is less yellow than in the males. The first joint of the antennæ in the female is considerably shorter than that of the male. Fore femora and fore tibiæ less stout, though the tip of the latter has also a dentiform, but less stout elongation; their under side has no excision before this tooth and the front side of the tibiæ no thorn. Middle femora not curved, on the larger half of their under side with a few sparse bristles. Middle tibiæ plain, upon the first half with a considerable number of black bristles, upon the latter part of the posterior side without the curly hairs which are found in the male. Hind femora plain, slender, towards the tip but very little stronger, upon the second part of the under side with about six rather strong black bristles. Hind tibiæ without the strong bristle which, in the males, exists at the tip of the front side.

Hab. Middle States. (Osten-Sacken); Illinois. (Le Baron.)

2. S. spinimanus Zett. ♂ and ♀.—Thoracis dorso obscure æneo, albido-pollinoso, opaco, abdomine ex viridi cupreo, nitido, halteribus subfuscis, alis nigris, basi et costæ dimidiæ limbo subalbidis, margine postico toto cinereo, lamellis analibus maris albis, basim versus infra nigro-marginatis, apicem versus flavis, in summo apice puncto fusco notatis.

The upper side of the thorax dusky bronze-colored, with whitish dust;

abdomen coppery-green, bright; halteres brownish; wings black, though the root and the margin of half the costa is whitish, the whole posterior margin gray; anal appendages of the male white, towards the basis on the under side with a black margin, towards the tip yellow, at the extreme tip marked with a brown spot. Long. corp. 0.15. Long. al. 0.19.

Syn. *Hydrophorus notatus* Zetterstedt, Ins. Lapp. 701, 4, *in obs.*
Hydrophorus spinimanus Zetterstedt, Dipt. Scand. II, 445, 5.

Male. Blackish bronze-colored. The face is comparatively a little broader than in *S. exustus*, covered with bright ochre-yellow dust and opaque. Antennæ black. Front with whitish dust. The ground-color of the thorax is of a coppery-bronze; upon the middle of the upper side more of a blackish-bronze, but almost everywhere so thickly covered with dust that the coppery lustre is only very little perceptible; the dust on the upper side of the thorax is snow-white, upon the two longitudinal stripes near the lateral margin it is less thick, so that the coppery reflection of the ground-color is more distinct; upon the middle there are two narrow, dark longitudinal lines, close to each other, which do not reach as far as the posterior margin of the thorax. Upon the pleuræ the color of the dust is more yellowish. The scutellum has two bristles, is rather opaque, with a thin whitish dust. Abdomen green, mostly with a coppery lustre, which becomes much more bright near the lateral margin. The anal appendages are of middling length, white, near the basis on the lower margin with a narrow black border, and on the upper margin usually marked with a blackish spot; beyond the middle they are inflected upwards and gradually assume a yellow color; their extreme tip is marked with a small brown spot and bears a small tuft of delicate pale hairs, which are turned backwards; about the middle of the interior margin there is a similar pubescence; between them, towards the anal region, there is a small tuft of delicate whitish hairs. Coxæ bronze-black; the four anterior with yellow and the two hind ones with a rather whitish dust; the fore coxæ with very short and delicate pale hairs, near and upon the tip with a few black bristles. Feet black, femora and tibiæ more black-green, the former bright coppery. Fore femora short, towards the basis very much thickened, beset on the under side with bristles of different length, on the front side with a row of stiff black bristles. Middle femora long, stronger than in *S. exustus* and more curved, on the latter half of the under side with erect black bristles. Hind femora of a plain structure, not stouter than the middle femora; their under side has only close before the tip, a few black bristles. The comparatively stout fore tibiæ have on their front side, not far from their basis, a stout black thorn; their tip is elongated into a very stout tooth, before which the under side of the tibiæ, which is beset with strong bristles, has a small excision. Middle tibiæ not quite so long and slender as those of *S. exustus*, on the upper side only with three or four short bristles, on the under side with a row of extremely long, straight, erect black bristles, and on the hind side with long curved hairs, which latter are more dense near the tip and curl up to the shape of a lock of hair. Hind tibiæ plain, scarcely stouter than the middle tibiæ; on their upper side, not far from the basis, there is a strong bristle, and on the latter half a few small bristles; the under side is beset with short small bristles, which are isolated upon the first part and closer together and in more regular order upon the second half; at the end of the under side there is a considerable number of less strong and less short bristles, of which the last is distinguished by its greater length; on the outside of the tip of the tibiæ there are several short and one longer and curved bristle, which has almost the thickness of a thorn. Tarsi plain, the joints of decreasing length, the first joint of the fore and of the middle tarsi with more, that of the hind tarsi with less bristles. Halteres yellowish-brown, the lower part of the knob more dark. The wings of uniform breadth and at the end more rounded than in the other species; an uncommonly large black spot covers their apical half with the exception of a broad gray border on the posterior margin, and extends as a broad cloud along the fifth longitudinal vein almost as far as the anal cell; inside of the discoidal cell it is somewhat paler, otherwise, however, so dark that the two black spots, peculiar to this genus, upon the posterior transverse vein and upon the last segment of the fourth longitudinal vein, can only be perceived when the wing is held towards the light; the anterior part of the wing from the basis as far as the middle is dingy-whitish hyaline; the anal angle and a broad border along the posterior margin are more hyaline-gray.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Female. It is distinguished from the male by the following characters: Face with pale yellow-grayish, front with brown dust. The middle of the upper side of the thorax with yellow-brownish dust, marked with a few spots of whitish dust. Its lateral stripes are covered with brown, the edge of the lateral margin, however, again with gray-whitish dust. The abdomen is more green, less coppery and less bright than in the male. The dust upon the pleuræ and upon the fore coxæ is less yellow. The fore femora are of a similar structure as those of the male; the fore tibiæ without a thorn on the inside, elongated at the tip in a much smaller and sharper tooth, before which there is no excision; otherwise the feet are plain, the middle and hind femora straight and much more slender than in the male; middle and hind tibiæ only sparely beset with scattered bristles.

Observation.—As I do not possess a North American female of *S. spinipes,* I have prepared the above description from Swedish specimens.

3. S. avidus, nov. sp. ♂.—Thoracis dorso æneo-nigro, nitido, margine et lineâ mediâ cinereo-pollinosis, pleurarum plagâ superâ, abdomineque ex viridi læte cupreis, nitidissimis, halteribus albis, alis cinereis, punctis duobus nigris, altero in venâ transversâ posteriore, altero in ultimo venæ longitudinalis quartæ segmento; lamellis analibus maris albis, basi et apice tamen nigris.

Upper side of the thorax bronze-black, shining, its margin and a middle line dusted with gray powder; a large spot on the upper part of the pleuræ and the abdomen bright greenish copper-colored, very shining; halteres white; wings gray with two large dots, one on the posterior transverse vein, the other upon the last segment of the fourth longitudinal vein; the anal appendages of the male are white, but their basis and tip are black. Long. corp. 0.17. Long. al. 0.21.

Male. Face somewhat broader than in the previous two species, dusted with bright ochre-yellow powder, opaque. Front with white dust. Antennæ black. Most of the upper side of the thorax bright bronze-black with faint violet reflections; its whole margin has a rather broad border dusted with a whitish-gray powder, and therefore opaque; there is also a narrow middle line, which is much abbreviated behind and likewise dusted with a white-grayish powder. The upper part of the pleuræ, from the shoulder to the root of the wings, is entirely without dust, metallic greenish copper-colored, very much shining; as I have only a single specimen, I am unable to judge with certainty whether this large shining spot is also present in fresh specimens, as I believe it to be, or whether in the above described specimen it is merely rubbed off; the other parts of the pleuræ are dusted with gray. The scutellum, which has two bristles, is greenish bronze-colored and opaque. The very shining abdomen is of a bright coppery color, but assumes, when its surface is looked upon in a very oblique direction, a green or at least brassy-yellow color. The tape-like anal appendages are very long, somewhat blackened at the basis, and still more so at the tip which is turned upwards, and there beset with a small tuft of blackish hair directed backwards; otherwise their margins are not hairy, although there is a single black bristle where the blackening of the tip begins on the under side in the vicinity of its inner margin. Near the anus between the above mentioned two appendages there are a few small black hairs. Coxæ greenish-black, with white-yellowish dust; the foremost have besides some pale hairs, almost imperceptible on account of their shortness and delicacy, a few black bristles before and upon the tip. Feet black with a metallic-green reflection, which gradually disappears upon the last joints of the tarsi. Fore femora towards their root not so much thickened as in the two preceding species, beset with strong black bristles of different length on the under side, on the front side with a sparse row of short black bristles. Middle and hind femora long, slender, straight, of a plain structure, beset on the second half with a moderate number of short, scattered black bristles. The moderately stout fore tibiæ bear on their anterior side, not far from the basis, a short black thorn and are prolonged at their tip into a large, somewhat clumsy but sharp tooth, before which the under side of the tibia, provided with bristles, has a very small excision. The middle tibiæ are long and slender; on the upper side they are beset with only three, on the anterior side with about seven scattered bristles of very moderate length; on the other half of their hind side they bear long curly black hairs. Hind tibiæ slender, straight, rather long, only on the second half with a few isolated black bristles; the bristles on the outside of their tip are also only short. Tarsi plain, their joints of decreasing length; the first joint of the fore and middle tarsi on the under side with numerous black bristles, the first joint of the hind tarsi only with a few and much shorter bristles. Wings hyaline-gray, somewhat darker towards the tip on account of the gray margin of the second, third and fourth longitudinal veins; upon the posterior transverse vein and upon the middle of the last segment of the fourth longitudinal vein there is a gray-blackish spot of considerable size.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

4. S. filifer, nov. sp. ♂.—Thoracis dorso cinereo, opaco, abdomine cupreo, cinereo-pollinoso, subopaco, halteribus albidis, alis hyalinis in basi subalbidis, apicem versus cinereo-striatis punctisque duobus majusculis nigricantibus, altero didymo in venâ transversâ posteriore, altero simplici in ultimo venæ longitudinalis quartæ segmento; lamellis analibus maris angustissimis albis, in basi nigris, in summo apice flavicantibus.

Upper side of the thorax gray, opaque; abdomen copper-colored with grayish dust, rather opaque; halteres whitish; wings hyaline, whitish near the root, with gray stripes towards the tip; upon the posterior transverse vein with a double blackish spot of considerable size, and with a similar, but single spot upon the last segment of the fourth longitudinal vein; the anal appendages of the male are very narrow, white, black at the basis and yellowish at the extreme tip. Long. corp. 0.15. Long. al. 0.20.

The narrow face is ochre-yellow. Antennæ black. Front with white dust. Thorax blackish bronze-colored with copper-colored reflections; on the upper side with thick whitish dust, which almost conceals the ground-color, opaque; upon the pleuræ with a somewhat thinner dust of the same color. Upon the middle of the upper side there are two narrow parallel lines of a darker color, which do not reach as far as the posterior margin of the thorax. The scutellum, which has two bristles, is of the same color as the pleuræ. The ground-color of the abdomen is like that of the thorax, is, however, more distinct, not being so thickly covered with dust; towards the lateral margin of the abdomen, where the dust almost entirely disappears, there is a bright copper-colored lustre. The anal appendages of the male, which are turned upwards at their tip, are not ribbon-like, as in the previously described three species, but filiform, white, black at the root, at the tip pale-yellowish to a small extent; on the middle of their exterior margin there is a dense beard of delicate little white hairs; there is no tuft of hairs at their tip. Between them, in the anal region, only a moderate number of short delicate little hairs, which may be easily overlooked, are inserted. Coxæ of a blackish-bronze color with whitish dust; the fore coxæ have, besides the pale, and, on account of its shortness and delicacy, almost imperceptible pubescence, quite a number of black bristles. Feet black, the femora with a more coppery, the tibiæ with a more metallic-greenish tinge. Fore femora rather strongly thickened towards the basis, on the under side with strong black bristles of different length, on the front side only with an imperfect row of short black bristles. Middle femora moderately thickened and strongly curved, on the under side of the basis with two or three not very long, on the apical half with a large number of long, straight and erect bristle-like black hairs. Hind femora plain, of middling stoutness, on the under side with bristle-like short hairs; on the upper side with two longer black bristles, of which the larger is not far from its tip. Fore tibiæ strong, with a large and sharp thorn on the front side, not far from the basis; elongated at the tip into a large clumsy tooth; the under side of the tibia, provided with bristles, has no distinct excision before this tooth. Middle tibiæ long, straight, a little stronger in the neighborhood of the basis; the first two thirds of their under and posterior side are fringed with long curly black hairs, the end of the under and front side, however, with long and stiff black bristles; on the under side, where these bristles begin, there is between them a somewhat curved black thorn. Hind tibiæ straight, on the under side with short but very strong black bristles, one of which, being not far from the tip, is remarkable for its greater length; on the outside of the tip of the tibiæ a few shorter and one somewhat longer curved bristle are inserted. Tarsi plain, their joints of decreasing length; the first joint of the fore and middle tarsi on the under side with black bristles, which are of considerable length near the basis of the tarsi, but decrease in length very rapidly so as to be very short on the larger portion of the joint; the under side of the first joint of the hind tarsi is everywhere beset with short black bristles. Halteres pale-yellowish, but the basis of the knob somewhat brownish. Wings hyaline; almost the whole basal third appears somewhat whitish when seen in a certain direction; grayish stripes along the second half of the second and third longitudinal veins, likewise along the tip of the last segment of the fourth and the greater portion of the fifth longitudinal vein; there is also a gray streak between the third and fourth longitudinal veins; upon the posterior transverse vein there is a blackish-gray double spot, and upon the middle of the last segment of the fourth longitudinal vein there is a larger rounded blackish-gray spot, which is less sharply defined on the side turned towards the tip of the wing.

Hab. Fort Resolution, Hudson's Bay Territory. (Kennicott.)

Gen. XXXVII. **HYDROPHORUS.**

Characters. The first joint of the antennæ short, bare; the second very short; the third rounded, more or less distinctly notched under its tip; arista dorsal, two-jointed, apparently bare. Front a little excavated on the vertex, narrower anteriorly. Eyes large, higher than broad, encased below in the cheeks, which in their structure resemble those of *Orthochile*, and are broader than in the other genera. The face reaches somewhat below the lower corner of the eyes; it is scarcely narrower in the male than in the female, its two upper thirds are usually a little concave; the lowest third is separated from the upper one by two knotlike elevations near the eyes, is convex and ends in a sharp rounded edge. Proboscis of moderate thickness; palpi incumbent, in both sexes rather small. Upper side of the thorax only with moderately long hairs upon its middle. Scutellum rather flat, though somewhat elevated along its middle line, in all species known to me with four bristles. Abdomen broad and rather flat, very short, without bristles; it has five segments in both sexes. The hypopygium of the male is small and imbedded; at its lower end there are two small, dark-colored lamellæ, obliquely turned down, and so closely approximated that they seem to form but one clumsy dentiform protuberance; usually no other appendages are seen besides these. Feet generally bare; middle and hind feet much longer and more slender than the fore feet; fore femora gradually rather thickened towards the root; on their under side, either in both sexes or at least in the male, with short, thornlike bristles; sometimes they are beset with a few longer and thornlike bristles; fore tibiæ on the under side densely beset with very short thornlike bristles; middle tibiæ never beset with longer hairs, even in the male; tarsi plain, their joints very much decreasing in length; the empodium very distinct. Wings long and narrow; the posterior transverse vein close to the margin of the wing; the third and fourth longitudinal veins usually somewhat converging towards their ends; in some species they are parallel; the sixth longitudinal vein usually apparent as far as the middle of its course.

Hydrophorus differs from *Scellus* by the fore femora and fore tibiæ not being provided on the under side with long thorns, catching between each other, by the tip of the fore tibiæ not being elongated into a clumsy projection, by the middle tibiæ of the male not being adorned with long hair, by the hypopygium not having those peculiar pale-colored appendages, which distinguish the species of *Scellus*, &c. *Liancalus* has no notches on the third joint of the antennæ, its fore femora are not thickened and unarmed, and it has bristles before the incisures of the abdomen, so that no mistake can occur between the species of *Hydrophorus* and *Liancalus*.

The name of *Hydrophorus* (from ὕδωρ, water, and *φέρειν*, to carry) has been bestowed upon these insects with reference to the ability of many of the species to run even upon agitated waters.

The species of *Hydrophorus* known to me are distributed over Europe, Northern Asia, Africa and North America. There is no perceptible habitual difference between the species from the different parts of the globe.

Table for the determination of the Species.

1	Face with white dust, shining green above.	1 **innotatus**, nov. sp.
	Face with brownish-yellow dust, opaque above.	2
2	Third and fourth longitudinal veins convergent.	2 **pirata** *Lw.*
	Third and fourth longitudinal veins parallel.	3 **parvus** *Lw.*

Description of the Species.

1. H. innotatus, nov. sp. ♂ and ♀.—Olivaceo-æneus, scutello virescente, abdomine viridi, femoribus tibiisque viridibus, tarsis nigris, facie supra viridi-splendente, polline pleurarum albido, venis alarum cinerascentium atris, longitudinalibus tertiâ et quartâ apicem versus paulo convergentibus.

Metallic olive-brown with greenish scutellum and green abdomen; femora and tibiæ green; tarsi black; face shining green above; pleuræ with whitish dust; wings gray with black veins; the third and fourth longitudinal veins somewhat converging towards their end. Long. corp. 0.13. Long. al. 0.22.

The dust upon the face is yellow-brownish immediately below the antennæ; otherwise everywhere white in the male, but so thin upon the entire upper part of the face that its metallic-green color becomes distinctly perceptible; in the female the face is covered with white dust only along the sides, upon the middle with brownish dust. Antennæ entirely black. Front greenish-black, opaque; seen in an oblique direction the covering of brown dust upon it becomes perceptible, which otherwise is visible only on the anterior margin. The ground-color of the occiput is green and but little covered with brownish-gray dust. The cilia of the upper orbit are, as usual, black, the dense and hair-like cilia on the lateral and inferior orbits, however, rusty-yellowish. The upper side of the thorax metallic olive-brown; the hindmost part with a metallic-green reflection; the dust upon it is brown. Scutellum with four bristles, shining, rather green, though somewhat copper-colored upon its middle. Pleuræ and coxæ with whitish dust. Abdomen metallic-green, shining, especially on the sides; the short hair upon it is blackish, upon the sides of the first segment, however, fallow-yellowish. Fore coxæ on their front side with a very short and delicate whitish pubescence, beset on the upper half of their exterior side with a moderate number of comparatively long black bristles; a few of them are also at the tip. Femora slender, green, with an almost imperceptible grayish dust; the fore femora as usual thickened towards their basis, and beset on the under side near the basis with four or five rather long thornlike bristles; besides these there is, nearer to the anterior margin, an apparently incomplete row of very short bristle-like little hairs, which are but difficult to perceive. Tibiæ dark green, the foremost on their under side uniformly fringed with very short, black thornlike bristles. Tarsi black. Cilia of the tegulæ yellow. Halteres with a dusky yellow peduncle and with blackened knob. Wings very long, tinged with gray, not darker towards the anterior margin and with veins which are black up to the extreme root; the end of the third longitudinal vein is somewhat curved backwards so as to converge distinctly towards the fourth longitudinal vein; no dark spot is to be seen neither upon the fourth longitudinal vein, nor upon the convexity, crossed by the last segment of the fourth longitudinal vein.

Hab. Sitka. (Sahlberg.)

Observation.—Notwithstanding the not unimportant difference in the coloring of the dust on the lower part of the face between the two sexes described above, I have no doubt that both belong together. From the other North American species, known to me, *H. innotatus* differs by the shining green color of the upper part of the face. Among the European species it can only be compared to *balticus* Meig., *alpinus* Wahlb. and *callostomus* Lw. It can easily be distinguished from *balticus* by the dark knob of the halteres; from *alpinus* by the want of a curved thorn at the end of the fore tibiæ; from *callostomus* by its more considerable size and a comparatively narrower face.

2. H. pirata Loew. ♀.—Olivaceo-æneus, thorace et scutello cupreo-splendentibus, abdomine virescente, femoribus tibiisque viridibus, tarsis nigris, polline faciei opacæ ex fusco ochraceo, pleurarum polline albido, venis alarum cinerascentium nigris, longitudinalibus tertia et quartâ apicem versus paulo convergentibus.

Metallic olive-brown, thorax and scutellum with a copper-colored reflexion; abdomen greenish; femora and tibiæ green; tarsi black; the dust upon the opaque face brownish ochre-yellow; that of the pleuræ whitish; wings gray with black veins, the third and fourth longitudinal veins somewhat converging towards their ends. Long. corp. 0.15. Long. al. 0.24—0.26.

Syn. *Hydrophorus pirata* Loew, Neue Beitr. VIII, 71, 1.

Face with brownish-yellow dust, entirely opaque. Palpi black and covered with black hairs, on the upper side with brownish-yellow dust. Antennæ entirely black. Front brownish-black, opaque; when seen in an oblique direction, it seems as if partially covered with brownish-yellow dust. On the occiput the ground-color is green, however almost entirely covered with grayish-yellow dust, or rendered very opaque. The cilia of the upper orbit are, as usual, black, the dense and hair-like cilia of the lateral and inferior orbits however, yellow. The upper side of the thorax is metallic olive-brown with a copper-colored reflection; the scarcely perceptible dust upon it is brownish-yellow. Scutellum with four bristles, shining, copper-colored upon the middle, on the margin green. Pleuræ and coxæ with whitish dust. Abdomen more green than the thorax and with a coppery tinge, upon the greater portion of the last segment and upon the posterior margin of the preceding segments usually beautifully green; its short hair is blackish, only upon the posterior margin of the first and of the last segment it is pale. Fore coxæ on their front side with a very short and delicate whitish pubescence, on their exterior margin fringed with black, stiff, but not very strong, bristles, of which there are also a few on the tip. Femora slender, green, and covered with thin, almost imperceptible, whitish dust;

the fore femora as usual, thickened towards the basis, on their under side with two rows of thorn-like bristles, the inner row of which reaches as far as their tip, while the exterior one stops already on the middle of the femora. Tibiæ dark-green, the foremost uniformly fringed, upon their under side, with very short thorn-like bristles. Tarsi black. Cilia of the tegulæ fallowish-yellow. Halteres with a dusky-yellowish peduncle, and with blackened knob. Wings very long, tinged with gray, not darker towards the anterior margin, with black veins up to the extreme root; the end of the third longitudinal vein somewhat approaches the fourth, so that these veins converge distinctly towards their ends; upon the posterior transverse vein and upon the convexity, which the last segment of the fourth longitudinal veins crosses, there is a somewhat more gray spot, which is almost invisible to the naked eye.

Hab. Pennsylvania, District of Columbia. (Osten-Sacken.)

Observation.—It is difficult to determine, whether *H. pirata* is not one of those four species of *Hydrophorus* which Mr. Walker has described as species of *Medeterus.* They agree in a good many respects not only among themselves, but also with *H. pirata,* while each of them exhibits also some distinguishing feature. *H. viridiflos* must be much more green, according to Mr. Walker's statements, than *H. pirata;* besides, the cilia of the inferior orbit of the former one are white, while those of the latter are yellow; moreover, its abdomen is conical and longer than the thorax, an entirely uncommon character for a female of *Hydrophorus,* and making it almost doubtful whether it really belongs to this genus; finally the veins of the wings are said to be brownish-yellow near the root of the wing; these discrepancies are altogether too great to justify the supposition that *H. pirata* can be identical with *viridiflos* Walker. The face of Walker's female of *H. glaber* is said to be covered with golden-yellow dust, the abdomen on the upper side clothed with brownish-yellow hairs, the femora rather stout and the halteres brownish-yellow. These differences are likewise too important to admit the identity of *H. pirata* with *H. glaber.* The face of Walker's female of *H. chrysologus* is said to be also covered with golden-yellow dust; the wings are said to be brown along the anterior margin, and to measure only three lines in expanse, whereas they measure six lines in *H. pirata.* Under such circumstances the identity of these species is out of question.

In Walker's description of *H. alboflorens*, the brownish-yellow color of the dust upon the face, the color of the halteres and the black color of the hair on the upper side of the abdomen, agree better with *H. pirata;* but it is added, that the thorax is covered with brownish-yellow dust, that the dust upon the femora is of the same color, and finally that the pulvilli are of a pale-yellowish color, of all which there is no trace in *H. pirata*.

3. H. parvus Loew. ♂.—Olivaceo-æneus, thorace et scutello cupreo resplendentibus, abdomine obscure virescente, femoribus tibiisque viridibus, tarsis nigris, polline faciei opacæ ex fusco ochraceo, pleurarum polline albido, venis alarum ex nigro cinerascentium nigris, longitudinalibus tertiâ et quartâ perfecte parallelis.

Metallic olive-brown, thorax and scutellum with a copper-colored reflection; abdomen dark-green, femora and tibiæ green, tarsi black, the dust upon the entirely opaque face brownish ochre-yellow, that on the pleuræ whitish; the wings blackish-gray with black veins, the third and fourth longitudinal veins entirely parallel. Long. corp. 0.09—0.10. Long. al. 0.13.

Syn. *Hydrophorus parvus* Loew, Berl. Entom. Zeitschr. VI, 214, 67.

Resembles in the structure of the body *H. pirata* very much, but sufficiently distinct from it by its smaller size, a more blackish color of the wings and the complete parallel course of the third and fourth longitudinal veins. Face with brownish ochre-yellow dust, entirely opaque, very much narrower upwards. Palpi black, antennæ also black. Front almost velvet-black, with yellow-brownish dust, which is not distinctly perceptible in every direction. Ground-color of the occiput green, covered above with yellowish, below and on the lateral margin with whitish dust. Cilia of the upper orbit black, of the inferior one white. Upper side of the thorax metallic olive-brown with almost violet and coppery reflections, the latter of which form two indistinct longitudinal lines and are more extended near the posterior margin of the thorax. Scutellum shining copper-colored, with four bristles, the lateral bristles much shorter than those which are nearer to the tip. The abdomen is green, rather opaque, upon the middle somewhat coppery, on the lateral margin and on the under side distinctly covered with white dust; the very short hair upon it is black. Coxæ, femora and tibiæ black-green. The fore coxæ are fringed on their front side with very delicate whitish hair which, on account of its shortness, is difficult to perceive; on their exterior side some short white little hairs are also inserted; one of the uppermost, however, is sometimes of a black color. The fore femora, which are moderately thickened towards the root, have, on their under side, a dense row of very short, straight, erect little bristles, and near the basis two or three longer bristles. The under side of the fore tibiæ is also provided with a dense row of very short small bristles. Tarsi black. The halteres appear to be black. Wings long, tinged with a gray-blackish color, not darker towards the anterior margin, and up to the extreme root with black veins; the end of the fourth longitudinal vein is completely parallel to the third; the posterior transverse vein is perpendicular, without dark margin and dark spot upon its middle; the convexity crossed by the last segment of the fourth longitudinal vein is not darker than its surroundings.

Hab. Pennsylvania.

Gen. XXXVIII. **ACHALCUS.**

Characters. Color non-metallic. The first joint of the antennæ glabrous, the third pointed-ovate; the long and slender arista subapical. Face narrow. Abdomen with six segments in both sexes; the female abdomen at the end without a coronet of bristles. Hypopygium small; its exterior appendages have the shape of small lamellæ. The first joint of the hind tarsi without bristles, shorter than the second. The sixth longitudinal vein of the wings is wanting.

It is impossible to overlook the relationship of the genus *Achalcus* with the four following genera, which are distinguished by the posterior end of the thoracic dorsum being provided with a concave area.

This relationship is also illustrated by the want of the coronet of bristles on the posterior end of the female abdomen, which *Achalcus* has in common with these four genera. I have only a few specimens of *Achalcus flavicollis* in my possession; the manner in which they are pinned renders it impossible to ascertain whether the posterior end of the upper side of the thorax has a concave surface or not; it seems to me that the latter is the case.

The name of the genus (from α, non, and χαλκός, brass) has reference to the non-metallic color of the species.

The few species of *Achalcus* as yet known, belong all to the European fauna.

Gen. XXXIX. MEDETERUS.

Characters. Face of both sexes rather broad, and in both with a transverse swelling below its middle. The proboscis very much swollen; when in repose, both sides of its opening are so close together, that its lower surface forms but a single convexity. The first joint of the antennæ glabrous, the third rounded or somewhat ovate, with a slender apical or subapical arista. Eyes not hairy. The upper side of the thorax on its posterior end with a concave declivity. The hypopygium with a short peduncle, entirely disengaged, inflected under the venter, with rather short appendages. Feet rather long and slender, almost entirely without bristles; the first joint of the hind tarsi without bristles, shorter than the second. The third longitudinal vein, in most of these species, ends not far from the tip of the wing, and the last segment of the fourth longitudinal vein converges towards the third.

The genus consists of two groups; the first of these differs from the second by the shorter distance of the posterior transverse vein from the margin of the wing, by a stronger convergency of the third and fourth longitudinal veins, by the smaller length of the first joint of the hind tarsi and a more slender structure of the body.

The name of *Medeterus* (from μηδέτερος, neither of the two) was given to this genus, because its species could not be located in any of the two genera of *Dolichopodidæ*, established at that time.

The known species belong to Europe, Northern Asia, Northern Africa, and North America. Of the latter I possess unfortunately only fragments of specimens, so that my statements about them will necessarily be very imperfect.

1. M. nigripes Loew. ♀.—Nigricans, antennis pedibusque concoloribus, thoracis dimidio anteriore albido-bivittato, dimidio posteriore et scutello albido-pollinosis, alis subhyalinis.

Blackish, antennæ and feet of the same color, the anterior part of the thorax with two whitish stripes, the posterior half and the scutellum covered with whitish dust, wings rather hyaline. Long. corp. 0.12. Long. al. 0.12.

Syn. *Medeterus nigripes* Loew, Neue Beitr. VIII, 73, 1.

Blackish, without metallic lustre. Face opaque from brown dust; its ground-color seems to be greenish-black, below the transverse swelling, above it of a purer black. Palpi and proboscis shining black. Antennæ black. Front opaque from brown dust. The cilia of the inferior orbit pale. The anterior half of the upper side of the thorax is brown with dust and has two distinct, yellowish-white longitudinal stripes, which reach from the anterior margin as far as the impression upon the posterior half; this impression and the scutellum are covered with grayish-white dust. The upper part of the pleuræ is covered with brownish-gray dust; the bristles above the fore coxæ are black. Abdomen black without any distinct trace of dust. Coxæ and feet black; fore coxæ very glabrous, only with a few black bristles near the tip; the extreme tip of the knees dark pitch-brown (which might be easily overlooked). The second joint of the hind tarsi is three times the length of the first one. Cilia of the tegulæ whitish. Halteres whitish with a darker peduncle. Wings hyaline, scarcely a little tinged with gray, with dark-brown veins; the posterior transverse vein distant from the margin of the wing somewhat more than its own length; the third longitudinal vein ends close before the tip of the wing; the last segment of the fourth longitudinal vein is uncommonly straight and its end lies close to the end of the third longitudinal vein.

Hab. Middle States. (Osten-Sacken.)

2. **M. veles** Loew. ♂.—Nigricans, antennis concoloribus, facie opacâ, pedibus testaceis, femorum dimidio basali ex nigro piceo, alis subhyalinis, maris hypopygio atro, nitido, ovato, subsessili.

Blackish, antennæ of the same color; face opaque; feet yellowish, basal half of the femora brownish-black; wings rather hyaline, hypopygium black, ovate, almost sessile. Long. corp. 0.11. Long. al. 0.11.

Syn. *Medeterus veles* Loew, Neue Beitr. VIII, 73, 2.

Blackish, without metallic lustre. Face opaque from brownish-gray dust; its ground-color is black, more distinct upon the part below the transverse swelling, the dust there having been rubbed off. Palpi and proboscis black, shining. Antennæ black. Front opaque from brown-gray dust. The upper side of the thorax is marked in a similar manner as in the preceding species, but the dust on the anterior half is more gray and that on the posterior half and on the scutellum, at least in the described specimen, less striking. The upper part of the pleuræ is covered with gray dust and the bristles above the fore coxæ are of a pale color. The abdomen is less thickly dusted than the thorax, appears however rather gray in some directions on account of its cover of dust. The peduncle of the hypopygium is so short as to appear sessile; it is rather stout, ovate, almost reversed-pyriform, black, polished on its entire right side and on the latter half of the left side. Coxæ black. Feet brownish-yellow, all femora, from the root as far as the middle, pitch-black, this color vanishing gradually. Cilia of the tegulæ whitish; halteres whitish with a darker peduncle. Wings hyaline, scarcely tinged with a little gray, veins brownish; the posterior transverse vein distant from the margin of the wing more than its own length. The third longitudinal vein ends a little farther from the tip of the wing than in the preceding species; the last segment of the fourth longitudinal vein is also very straight, converges, however, less towards the third longitudinal vein than in *M. nigripes*.

Hab. Florida. (Osten-Sacken.)

Observation. I have received from Mr. Le Baron two females, captured in Illinois. They are somewhat larger than the above described male, and the lower part of the face is greenish-blue, but very little shining. Otherwise they agree with it perfectly. The different color of the lower part of the face would be a sufficient specific distinction, if the bad condition of the above described male of *M. veles* did not admit the supposition that the difference in its color is an unnatural one. I prefer therefore not to consider these females as belonging to a different species.

Gen. XL. **CHRYSOTIMUS.**

Characters. Size of the body small. Antennæ small; their first joint glabrous; the third joint very short, usually broader than long, distinctly hairy, with an apical or almost apical arista. Eyes with a very short pubescence. The posterior end of the thorax with a rather large, distinctly concave, sloping area. The bristles upon thorax and scutellum yellow. Abdomen in all the species partially yellow. Feet not elongated; the first joint of the hind tarsi without bristles. Posterior transverse vein upon, or more or less before, the middle of the wing; the last segment of the fourth longitudinal vein neither broken nor distinctly bent forward, parallel to the third vein and ending into, or somewhat beyond, the tip of the wing. Hypopygium small and imbedded.

The species of *Chrysotimus* were formerly united with the species of *Chrysotus*. The principal difference between these genera consists in the structure of the thoracic dorsum. *Chrysotus* has immediately before the scutellum a small, more or less distinct, transverse swelling, which is separated from the rest of the surface by a rounded impression, and the convexity of the thorax begins here. In *Chrysotimus* this transverse swelling is entirely wanting, and the thorax shows in the middle of its hindmost part a rather conspicuous, distinctly concave surface, sloping towards its posterior margin. Moreover in *Chrysotimus* the feet are much less hairy, the wings comparatively a little larger, the appendages of the hypopygium more concealed, the integuments of the whole body softer, the bristles upon thorax and scutellum not black, but yellow, and the abdomen always, at least partially, of a yellow color, which is not the case with any of the genuine species of *Chrysotus*.

The name of the genus (from χρυσός gold, and τιμή, honor) reminds us of the coloring of the species, as well as of their former connection with the genus *Chrysotus*.

Besides the two North American species, described below, only European species are known.

1. C. pusio Loew. ♀.—Læte viridis, abdominis flavi segmento ultimo viridi, antennis palpisque nigris.

Bright green; abdomen yellow, the last segment green; antennæ and palpi black. Long. corp. 0.07. Long. al. 0.09.

Syn. *Chrysotimus pusio* Loew, Neue Beitr. VIII, 74, 1.

Face dark-green with a thin white-grayish dust. Palpi brownish-black, appearing rather pale on account of a white-grayish dust. Antennæ entirely black; front shining metallic-green; the frontal bristles black, in another direction fallow-brownish, with a yellow lustre. The cilia of the whole orbit yellowish. Thorax and scutellum pale metallic-green, with whitish dust, but shining and fringed with yellow bristles. Metathorax and pleuræ of the same pale-green color, the latter with thick whitish dust. Abdomen uniformly yellow, only on the upper side of the last segment green. All the coxæ and feet yellow, only the last joint of the tarsi brownish-black; all the hairs, as well as the few short bristles upon them, are yellowish, though the latter appear dark when held towards the light. Halteres and tegulæ yellowish, the latter with yellowish cilia. Wings hyaline with a yellow-grayish tinge and yellow veins; the short and steep posterior transverse vein lies more closely to the axillary incision than to the tip of the wing; its anterior end is not quite so far distant from the extreme basis of the costa as from the tip of the wing.

Hab. New York.

2. C. delicatus Loew. ♀.—Læte viridis, abdominis segmentis secundo et tertio flavis, antennis nigris, palpis flavis.

Bright green, the second and third abdominal segments yellow, antennæ black; palpi yellow. Long. corp. 0.08. Long. al. 0.10.

Syn. *Chrysotimus delicatus* Loew, Neue Beitr. VIII, 74, 2.

Face blackish-green, covered with white-grayish, not very striking, dust. Palpi pale-yellowish. Antennæ black. Front metallic-green, indistinctly covered with whitish dust; frontal bristles black, in another direction fallow-brownish with yellow lustre. The cilia of the orbit seem to be altogether yellow. Thorax and scutellum pale metallic-green, with gray-whitish dust, but shining and fringed with yellow bristles. The metathorax and the pleuræ have a similar, but more dull, coloring; the latter are covered with white-grayish dust. The first and the two last abdominal segments are green and shining, the second and third, in fresh specimens, are undoubtedly of a yellow color; in the only specimen, which I possess, both are infuscated to a considerable extent at their basis; upon the posterior corners they show a dusky-whitish color. The color of the venter cannot be distinctly perceived, but it seems to correspond with that of the upper side. Coxæ and feet yellow, only the last joint of the tarsi brownish-black. All their hairs, as also their bristles, are yellowish, though the latter appear to be dark when held towards the light. Halteres and tegulæ yellowish, the latter with yellowish cilia. Wings hyaline, tinged with grayish; towards the anterior margin with a yellow-grayish tinge; the veins on the posterior part are more yellow-brownish, on the anterior part more yellow; the short posterior transverse vein has not such a steep position as in the preceding species, and is a little more distant from the tip of the wing.

Hab. New York.

Gen. XLI. **XANTHOCHLORUS.**

Characters. Color of the body non-metallic, yellow, often with green spots. Antennæ very short; their first joint remarkably short and without hairs, the second transverse, the third very short; the arista, which is distinctly clothed with hairs, is inserted upon the back of the third joint, in the vicinity of the basis. The thorax has upon its posterior half an impressed area, which is sloping downwards. The last segment of the fourth longitudinal vein is but very gently inflected, and converges somewhat towards the third longitudinal vein; the sixth longitudinal vein disappears already far before the margin of the wing. Feet rather long; hind tarsi much shorter than the hind tibiæ; their first joint without bristles and shorter than the second. Abdomen of the male not elongated; the hypopygium rather swollen, not imbedded, pointing straight backwards, so that the abdomen thereby appears to be somewhat elongated; the appendages are small, but distinctly visible. The abdomen of the female obtuse at the tip, somewhat impressed below, and without a coronet of bristles.

In consequence of the color of the body, the species of *Xanthochlorus* might perhaps be mistaken for species of the genera *Chrysotimus* and *Saucropus.* In *Chrysotimus* the position of the arista is more subapical; the third and fourth longitudinal veins are parallel, the feet shorter, and the hind tarsi almost as long as the hind tibiæ, the hypopygium of the male is smaller and imbedded, and the last segment of the female abdomen protrudes in the form of a short ovipositor. Of all this, nothing is to be found in *Xanthochlorus.* In *Saucropus* the abdomen is elongated, the hypopygium inflected under the abdomen and the last abdominal segment of the female is a sort of an ovipositor; all this is not to be found in *Xanthochlorus;* the feet of the species of *Saucropus* are also much more elongated than those of the species of *Xanthochlorus.*

The name of this genus (from ξανϑός, yellow, and χλωρός, green) has reference to the peculiar color of the species.

Besides a few European species, only the following North

American species is known, which may perhaps be identical with one of the European species.

1. X. helvinus Loew. ♀.—Flavus, fronte, facie et setis thoracis nigricantibus.

Yellow, front, face and the bristles of the thorax blackish. Long. corp. 0.11. Long. al. 0.13.

Syn. *Xanthochlorus helvinus* Loew, Neue Beitr. VII, 75, 1.

Altogether yellow. Front and face blackish with whitish dust, which is more distinctly visible in an oblique direction. The arista, the bristles on the vertex and on the upper side of the thorax, black, but shifting into brown in a reflected light. A small blackish spot on the pleuræ, immediately below the root of the wing.

Hab. Chicago.

Observation.—This species resembles the European *X. tenellus* Wied., very much, and is probably a slight variety of it. No plastic distinctions at all are to be seen; the only difference which I can perceive, is the darker color of the bristles upon the vertex and on the upper side of the thorax. The comparison of the male is necessary in order to determine whether this species can be considered as a variety of *X. tenellus.*

Gen. XLII. SAUCROPUS.

The species of this genus, which older authors have united with *Porphyrops,* agree in many characters so much, and differ by these characters so sharply from the related species of the *Dolichopodidæ,* that their claim to form a separate genus cannot be questioned. The following are the principal characters of this genus: First joint of the antennæ without hair on the upper side; arista dorsal. The thorax with a sloping area upon the middle of its posterior end. Feet very long and slender; hind tibiæ elongated; the first joint of the hind tarsi without bristles, shorter than the second. Abdomen elongated and narrow; especially in the male. Hypopygium disengaged, short and stout, inflected, with short, very little developed appendages. Color of the body principally, or at least partially, yellow. Hairs and bristles chiefly black.

The characters by which the genus *Saucropus* is distinguished from the related genera, need not be repeated here, as they have already been sufficiently explained among the characters of those genera.

The name of *Saucropus* (from σαυκρός, delicate, and ποῦς, foot) has reference to the great slenderness of the feet, which distinguishes all the species of this genus.

The known species are distributed over Europe, America, and South Africa. The American species resemble more those of Europe than those of South Africa; in the latter the third and fourth longitudinal veins are parallel, while in the European species the last segment of the fourth longitudinal vein approaches the third longitudinal vein, although very gradually, still, in general, very strongly.

1. S. dimidiatus Loew. ♂.—Pallide flavus, thoracis lineâ mediâ et maculâ posticâ nigris, abdomine nigrofasciato, setis coxarum anteriorum albidis.

Pale-yellow, thorax with a black middle line and with a black spot upon the posterior end, abdomen with black bands; the anterior coxæ with whitish bristles. Long. corp. 0.18. Long. al. 0.17.

Syn. *Saucropus dimidiatus* Loew, Neue Beitr. VIII, 75, 1.

Pale-yellowish. Face very narrow, white. Antennæ bright-yellow. Front black with white dust; frontal bristles black. Cilia on the posterior orbit as well as the two stronger bristles behind the upper corners of the eyes, yellow-whitish. Upper side of the thorax reddish-yellow; the middle line and the sloping area on its posterior margin are black. Scutellum whitish-yellow with two strong black bristles; on the outside of each of these bristles there is a very small delicate hair, easily overlooked, which in all our European species is much stronger. Metathorax black; the pleuræ have a small black dot above the middle coxæ. Abdomen with three black transverse bands, the first in the vicinity of the basis of the second segment, the two following near the basis of the third and fourth segments; the two last are somewhat emarginated on the middle of their posterior margin. Hypopygium short and clumsy, shining black; its small exterior appendages are white. Coxæ and feet pale-yellowish; on the fore and middle coxæ there are altogether no black, but only whitish bristles; the hairs on the front side of the fore coxæ are also whitish; on the outside of the hind coxæ there is a solitary black bristle. Tibiæ and tarsi elongated and very slender; middle and hind tarsi strongly infuscated from the tip of the first joint; the fore tarsi from the tip of the first joint become likewise more dark, though their color changes much more gradually into brown. Cilia of the tegulæ whitish. Wings hyaline with a slight gray-yellowish tinge; the end of the fourth longitudinal vein approaches rather strongly the end of the third.

Hab. Florida, District of Columbia. (Osten-Sacken.)

2. S. rubellus Loew. ♀.—Pallide flavus, thoracis maculâ posticâ, abdominis fasciis setisque coxarum nigris.

Pale-yellow; thorax with a black spot upon the posterior side; abdomen with black bands; coxæ with black bristles. Long. corp. 0.25. Long. al. 0.23.

Syn. *Saucropus rubellus* Loew, Neue Beitr. VIII, 76, 2.

Pale-yellowish. Face narrow, white. Antennæ bright-yellow. Front black with white-yellowish dust. The frontal bristles and the two stronger bristles behind the upper corners of the eyes, black. Cilia of the orbit yellowish-white. Upper side of the thorax reddish-yellow, the sloping area on its hind margin black. Scutellum yellowish with two strong black bristles; on the outside of each there is a very minute delicate hair, easily overlooked. Metathorax brown only on the upper margin and upon the middle line. Pleuræ with a black dot above the middle coxæ. Abdomen with four black transverse bands of uniform breadth, of which the first near the anterior margin of the second segment, the others on the anterior margins of the following segments; the last of these bands is sometimes indistinct. Coxæ and feet pale-yellowish. The bristles on the fore coxæ black; the hair on the front side blackish, towards the basis of the coxæ pale; middle coxæ with black bristles and hairs; the hind coxæ on their outside with a single black bristle. Tibiæ and tarsi elongated, very slender; the tarsi from the tip of the first joint infuscated. The cilia of the tegulæ yellowish. Wings with a very distinct gray-yellow tinge; the end of the fourth longitudinal vein rather strongly approaches the end of the third one.

Hab. Virginia. (Osten-Sacken.)

3. S. superbiens Loew. ♂ and ♀.—Ex glauco viridis, abdomine læte æneo-viridi, basim versus flavo.

Grayish-green, the abdomen shining metallic-green, towards the basis yellow. Long. corp. 0.13—0.14. Long. al. 0.15.

Syn. *Saucropus superbiens* Loew, Neue Beitr. VIII, 76, 3.

Face of the male entirely linear; that of the female also very narrow, snow-white. Palpi and proboscis dark-yellow. Antennæ bright reddish-yellow; the small third joint somewhat infuscated at the tip. Front with thick whitish dust; the frontal bristles black. The cilia of the upper orbit black, those of the lateral and inferior orbits whitish. The upper side of the thorax has a pale, metallic-green ground-color, more copper-colored towards the sides, appears, however, on account of the thick gray-whitish dust, opaque and glaucous. Scutellum more blue-green, but also rather thickly covered with gray-whitish dust; it has two strong black bristles. The pleuræ, which are covered with thick white dust, have a grayish-green ground-color, only their posterior margin (*epimera metathoracis*) is of a yellow color. Abdomen somewhat less elongated than in the preceding species; its first segment yellow, usually with a blackish spot on each side, which expands more in some specimens, so that the greater portion of this segment is of a blackish color; the second segment is also yellow, has however on each side a large, bright, metallic-green spot, which reaches from the posterior almost to the anterior margin and not unfrequently comes in contact with the opposite spot and forms a complete band, so that the anterior margin of this segment alone remains yellow. The following segments are on their whole upper side of a very saturate metallic-green coloring and very shining; towards the lateral margin the color often changes more into gold-green, rarely into coppery. Venter yellow. The small rounded hypopygium of the male yellow. All the coxæ and the long slender feet pale-yellow; the stronger hairs and bristles on the fore coxæ are fallowish-yellow in the males, black-brown in the females; the more delicate hairs are pale-yellowish in both sexes. Tibiæ and tarsi very elongated, especially the fore and middle tarsi of the male, the first joint of which is almost as long as the tibiæ and considerably longer than the four following joints together; in the female, however, the fore and middle tarsi are less elongated, especially their first joint, though they exceed the tibiæ in length not inconsiderably; the hind tarsi are but a little longer than the tibiæ, their first joint not much longer than the second. The tibiæ and tarsi of the hind feet are sparsely beset with very short bristles, which, in the female, distinctly differ from the usual short hairs, in the male however scarcely exhibit any difference. The cilia of the whitish tegulæ appear in some directions dark-brown, in others shift into yellowish. Wings hyaline, little tinged with grayish; the veins brownish; the long last segment of the fourth longitudinal vein is gently inflected forward and ends rather closely near the end of the third longitudinal vein.

Hab. Florida. (Osten-Sacken.)

4. S. tenuis, nov. sp. ♀.—Dilute flavescens, fronte, thoracis dorso præter limbos laterales scutelloque præter marginem ex cinereo virescentibus, pleurarum dimidio superiore et metanoto ex glauco cinereis, fasciis basalibus segmentorum abdominalium nigris.

Pale-yellowish, the front, the back of the thorax, with the exception of the lateral margins, and the scutellum with the exception of its margin, gray-greenish; the upper half of the pleuræ and the metathorax greenish-gray; abdominal segments at the basis with black bands. Long. corp. 0.13. Long. al. 0.14.

Pale-yellowish; the face, very narrow for a female, and the palpi have the same color; both are somewhat covered with whitish dust. Antennnæ pale-yellowish, the third joint somewhat infuscated. The ground-color of the front is greenish, metallic but not shining, covered with rather thick white dust, so that the whole front assumes a pale grayish-green appearance. The greater part of the upper side of the thorax has a similar, but somewhat more green coloring; however, the humeral region, and in connection with it, a large lateral spot near the transverse suture, the lateral margin above the root of the wing and the posterior corners are of a yellowish color. Scutellum grayish-green with yellowish margin. Almost the whole upper half of the pleuræ is greenish-gray, yet the color of the described specimen is not sufficiently matured for a more precise statement about the extent of this color; the metathorax is gray. The first abdominal segment is blackish at its basis; the three following segments have each on the anterior margin a broad, black band, which is gradually tapering towards the lateral margin. Feet pale-yellow; tarsi towards the tip only very little darker, but their small last joint more or less distinctly infuscated, especially that of the fore tarsi. Cilia of the tegulæ whitish. Halteres white-yellowish; their knob infuscated on its lower half. Wings hyaline, only a little tinged with grayish; the last segment of the fourth longitudinal vein is only very gently inflected forward from its middle, is in general somewhat distant from the third longitudinal vein, and approaches it, especially at its end, less closely than is the case in the preceding species.

Hab. Middle States.

Gen. XLIII. PSILOPUS.

The genus *Psilopus* can be easily distinguished from the related genera by its peculiar slender structure, the slenderness of its feet, the broad and excavated vertex and the peculiar neuration of its wings. The peculiarity of the neuration consists, besides the great proximity of the posterior transverse vein to the margin of the wing, especially in the structure of the fourth longitudinal vein; this vein either does not reach the margin of the wing at all, or becomes extremely thin before it reaches it; at the same time it emits anteriorly a robust branch, which bends forward either in a smooth or in an angular curve and ends in the neighborhood of the third longitudinal vein into the margin of the wing; strictly speaking, this anterior branch is the real continuation of the fourth longitudinal vein; its apparent continuation beyond the origin of this branch is an adventitious appendage; and that such is really the case, is proved by those exotic species, where this appendage is entirely wanting.

The species of *Psilopus* exhibit in the structure of the head and of its parts, especially in the antennæ, as also in the structure of the feet, of the wings, and of the male organs of copulation, numerous plastic differences, which may easily mislead to the formation of smaller genera. The greater part of these characters are merely ornaments of the males and exclusively specific distinctions, so as to be of little use for the definition of smaller genera; this applies even to the most striking among the other characters, as, for instance, to the either dorsal or apical position of the arista, the either very short or very long pubescence of the second joint of the antennæ &c.; these also afford no sharp limits, and there are species, where the two sexes do not agree in these characters. Mr. Bigot divided the genus *Psilopus* into the following twelve smaller genera: *Megistostylus*, *Mesoblepharus*, *Agonosoma*, *Margaritostylus*, *Oaristylus*, *Condylostylus*, *Eurostomerus*, *Dasypsilopus*, *Heteropsilopus*, *Psilopus*, *Sciapus*, and *Œdipsilopus*. In accordance with what I have said above, I cannot adopt these genera, based in part upon differences in the ornamentation of the feet in the male, and upon other distinctions of a similar value. If the genus *Psilopus* is to be further subdivided, this division will have to be based upon the observation, that the species of *Psilopus* diverge in two directions in their general habitus; one of these two sections embraces all our European species, and a number of similar species, mostly from Northern Asia and North America, the other section includes the large majority of the extra-European species. If these two branches are to be raised to independent genera, then such characters must be found, which can distinctly separate them from each other. There is no want of plastic distinctions, which may be used for such a purpose, but they are so manifold and of such an intricate nature that I believe to have found a more useful mark of distinction in the color of the cilia of the tegulæ, which in all the species of the first branch known to me are whitish, in those of the second branch however black. These characters have been used by me merely for the establishment of the two subsections of the genus *Psilopus*.

Although the species of *Psilopus* are so numerous and apparently resemble each other so much, nevertheless they can be easily distinguished, if only the necessary attention is paid to the plastic differences and not merely to the differences in color, which are often insignificant and more or less inconstant in almost all the species. The males of the different species especially can be easily distinguished, as they are remarkable by peculiarities in the structure of their antennæ, wings and feet, which belong to their sex only; they offer, besides, useful marks of distinction in the anal appendages; among the females of the smaller species, however, the distinction becomes sometimes rather difficult. Of the characters taken from the coloring, the most unreliable are those taken from the coloring of the head, thorax, and abdomen, especially in those species, the metallic coloring of which is shifting between the blue and the green; a little more available are the characters based upon the picture of the wings, if only we do not neglect to observe that this picture, at least in many species, varies a great deal not only in intensity, but also in extent; useful and rather reliable are the characters based upon the coloring of the feet, but of course then only, when the sex is stated, as in a good many species the feet of the females are much paler than those of the males.

The genus derives its name (from ψιλός, slender, and πούς, foot) from the great slenderness of the feet, peculiar to all the species.

The species of *Psilopus* are numerously represented in all parts of the world.

Say has described several North American species of *Psilopus*. Wiedemann has added a few more. His descriptions, even if judged with leniency, will be found very unsatisfactory, as they relate merely to differences in color, and often do not even state to what sex the specimen belonged; some of them can be applied to whole series of closely allied species. Mr. Macquart's and Mr. Walker's descriptions are not much better; those especially which the latter published in the *Diptera Saundersiana* are remarkable for their entire uselessness, so far that one may be sure not to find in them precisely those data which are indispensable for the recognition of the species of *Psilopus* and for their distinction from each other.

The insufficiency of the existing descriptions renders the determination of the species very difficult; generally we reach only possibilities, sometimes probabilities, very seldom certainty. As I am able to identify only a small number of my species with those which have been described before, I deem it necessary to give here the results obtained from the comparison of the species in my possession with the descriptions of the previous authors, and for this purpose I shall enumerate these descriptions one after the other.

The species heretofore published are the following:—

1. **longicornis** *Fabr.* Indigenous to the American islands; it has been described by Fabricius, and afterwards again by Wiedemann, from a specimen in the collection of Fabricius; the sex was not stated, but Fabricius's expression "*cauda uncinata*," shows that it was a male; in the description of Wiedemann the following available characters are found: the face only little dusted with white, the basis of the abdominal segments black, wings without dark picture, halteres yellow, feet black, fore tibiæ luteous. These characters agree

tolerably well with the two sexes of a species from Cuba, described below as *P. chrysoprasius*, although the face of the male of this species is distinctly covered with dust and the halteres are blackish with a dark yellowish-gray knob. But it evidently results from the statements of Fabricius, that his *P. longicornis* belongs to those species, the arista of which is very elongated and but little shorter than the rest of the body. In *P. chrysoprasius*, on the contrary, the arista is not even as long as head and thorax together. Thus the latter species must be considered distinct from that of Fabricius, as long as their identity has not been proved by the comparison of typical specimens. In Winthem's collection there is a male specimen, marked *P. longicornis*, and designated as Wiedemann's type; it is *P. chrysoprasius.* As Wiedemann, in the description of *P. longicornis*, refers only to the specimen from the collection of Fabricius, it is evident that Winthem's specimen came only later in the possession of Wiedemann, and was probably named by him *P. longicornis*, after comparison with his own description. This is no proof at all of the identity of the genuine *P. longicornis* Fabr. with *P. chrysoprasius.* The specimen in the collection of Fabricius can alone afford light upon this subject.

2. **sipho** *Say.* The frequent occurrence of the species described below under this name, and the characters which result from a comparison of Say's and Wiedemann's descriptions, leave me no doubt about the correctness of my determination. That Say did not distinguish it from *P. scaber*, a very closely related, but more rare species, results from the fact that there are two specimens in Wiedemann's collection, namely, a male of *P. scaber*, and another of *P. sipho*, both communicated under the latter name by Say himself. The name which Say has given belongs naturally to the common species. The species which Macquart (in *Dipt. exot. II*, 2, 119) described as *P. sipho*, is an entirely different species, probably the one which I described below as *P. jucundus*, from Cuba; however, it may also represent a mixture of several species, as the localities of its occurrence (Pennsylvania, Cuba, Guyana and Brazil) seem to indicate.

3. **unifasciatus** *Say.* Say describes this species without stating the sex, Wiedemann as *P. Sayi*, after a male specimen, obtained from Say. As there is no sufficient ground for the change in the name of the species, introduced by Wiedemann, the name given by Say must be restored. This species certainly belongs to those with pale-colored cilia of the tegulæ. I know three North American species which answer more or less Say's description with regard to the color of the body; in all three only the first joints of the antennæ are yellowish, the third joint, however, brown; thus all three could not be identified with *P. unifasciatus* Say, if his statement, "*antennæ whitish*," were to be taken literally, which certainly ought not to be done.

The first of my three species is described below as *P. psittacinus;* the male is remarkable by a very uncommon structure of the wings; as Wiedemann's description of the male says nothing about such a structure; moreover, as neither the dust upon the face, nor the color of the first abdominal segment, nor that of the feet agrees with the male of *P. psittacinus*, it is therefore impossible to identify it with Say's species. Of *P. bicolor*, described below, and distinguished by its slender tarsi, I know only the female; it is very much smaller than *P. unifasciatus* should be, according to Say's and Wiedemann's statements; moreover, the wings are not light-yellowish, their veins, however, dark-brown, the face covered with more dust, and the tarsi much paler than they should be in the species of Say; therefore both cannot be taken for one and the same. The third of my species, *P. variegatus,* of which, however, I possess also only the female, has tarsi of a darker color than the two preceding species, though the fore tarsi are not altogether and the hind tarsi not only at the tip, black-brownish; on the contrary, the fore and middle tarsi are blackish from the extreme tip of the first joint, the hind tarsi, however, entirely blackish with the only exception of the root of the first joint; moreover, the face is very thickly covered with dust, the color of the wings not yellowish, and the color of the veins of the wings not dark-brown, so that it would be entirely inadmissible to declare this species for *P. unifasciatus* of Say, which therefore cannot be found among the species known to me. Neither is there any information about it to be derived from Wiedemann-Winthem's collection; there is no specimen in it which bears such a name, nor is there any other to which the description of *P. unifasciatus* might apply.

4. **patibulatus** *Say.* Say's description agrees well with a species which is very common in North America, similar to *sipho*, but with black feet and smaller; it is described below more in detail under Say's name. Wiedemann's description is but a translation of Say's description of this species, which he seems not to have possessed himself.

5. **femoratus** *Say.* Judging from Say's description we refer this species into the circle of relationship of *P. scobinator*, *calcaratus*, &c. That this is correct, is confirmed by a statement of Say, which otherwise would have been rather striking. While he describes (*Journ. Acad. Philad. III*, 86, 5) the femora as green, and, with the exception of the hind ones, provided with a pale tip, he speaks (l. c. VI, 168, 11) of one specimen with entirely pale femora. Now the males of all the species, which belong to the above-mentioned group, have the femora of precisely the same color as Say first described them, while the females have entirely pale femora. The species, which belong here, are distinguished in the male sex by some peculiarities in the structure of the feet; as Say's description does not mention

them, it is impossible to determine which of the competing species he had before him. Wiedemann's description of the same species affords no light; he does not state the sex of the described specimen, but it is evident from his statements about the color of the feet, that it was a male. If this male specimen were still in his collection, which unfortunately is not the case, the species, which he obtained from Say as *P. femoratus*, could be easily determined. Considering the great similarity of the species belonging to this group, this would by far not settle the question, whether Say had described as *P. femoratus* one of these species, or whether he had mixed it up with others. I regret to say that in Wiedemann's collection there are, under the name of *P. femoratus*, only two females, which, judging by the pins, came from Say; one of these females I believe to be *P. scobinator*, the other *P. caudatulus;* considering, however, the great difficulties attending the distinction of the females of this group, I cannot render a positive decision. Thus *P. femoratus* of Say, as a species, will have to remain unnoticed, as it cannot be determined with certainty.

6. **pallens** *Wied.* This species is easily recognizable as one of those in my possession. Wiedemann furnishes only the description of the male; in the following I communicate the description of both sexes.
7. **macula** *Wied.* This is a species entirely unknown to me, and remarkable by the unusual picture of the wings.
8. **diffusus** *Wied.* In Wiedemann's collection there are two totally different males under this name. That which bears the etiquette is remarkable by the more diluted, as if diffused, picture of the wings, so that it may be supposed that Wiedemann had this specimen particularly or exclusively in view when he described and named this species. I accept this specimen without hesitation as the genuine *P. diffusus* Wied. Upon its etiquette the evidently incorrect statement of its patria, "Savannah," is crossed out and changed by Wiedemann himself into "Rio Janeiro." The other male, placed alongside of the etiquette, is that of *P. jucundus*, common in Cuba as well as in Brazil. In Winthem's collection a male and a female named *P. diffusus* are found. The male is the same as the typical male in Wiedemann's collection. The female, which is alongside of it, agrees very well in many characters with *P. diffusus* ♂, shows however a few differences, such as should not be expected from a female of *P. diffusus*. For the outlines of the picture on the wings are not only better defined, but the blackening on the fore margin begins only beyond the end of the first longitudinal vein, while in the male it begins already before it; besides, the bristles on the fore and middle tibiæ are very much longer than in the male of *P. diffusus*. I should not take this female for that of *P. diffusus*, if I had not received a number of precisely similar specimens from Brazil, as being the females of a male belonging to *P. diffusus*. For these

reasons I have no doubt that this is the genuine female of *P. diffusus.* The specimens of my collection show that the difference in the extent of the black coloring on the fore margin of the wings in both sexes is not always so considerable as the pair in Winthem's collection shows it. If then, in accordance with the foregoing, the easily recognizable male of *P. diffusus* is to be stricken out from the list of North American species, I will nevertheless insert here a more accurate description of this species, which has been only insufficiently characterized by Wiedemann.

P. diffusus Wied. ♂ and ♀.—Viridis, nitidissimus, fasciis nigricantibus alarum duabus, valde diffluentibus, antice conjunctis et postice abbreviatis, facie nudâ, pedibus nigris, tibiis tarsisque anticorum testaceis, setis tibiarum anteriorum perlongis, halteribus nigris.

♂. Duobus ultimis tarsorum intermediorum articulis postice candidopilosis, appendicibus hypopygii majusculis, fuscis.

♀. Tibiis tarsisque intermediis piceis.

Green, very shining; both blackish bands of the wings very diffused, but united in front, abbreviated behind; face without hairs; feet black, tibiæ and tarsi of the fore feet brownish-yellow; bristles of the four anterior tibiæ very long; halteres black.

♂. The two last joints of the middle tarsi with snow-white hairs on the posterior side; the rather long appendages of the hypopygium blackish-brown.

♀. Middle tibiæ and middle tarsi pitch-brown. Long. corp. 0.22—0.23. Long. al. 0.24—0.25.

Syn. *Psilopus diffusus* Wied., Auss. Zweifl. II, 221, 17.

Metallic-green, bright, shining. The lower part of the face, the posterior corners of the thorax and the scutellum (in one of the males) steel-blue. The very much excavated front beset, besides the usual black bristles, in the male with longer, in the female with somewhat shorter and more sparse hairs, which are, on the middle of the front of a whitish, on the sides of a more blackish, in the male even of an almost black color. The rather broad face is glabrous and only very sparsely dusted, its lower part rather distinctly separated from the upper part and the latter rather convex. Antennæ black, rather small, the second joint with rather long black bristles; the arista is of more than middling length, and has a subapical position. Palpi black, with numerous black hairs; proboscis brown-black. The bristles of the thorax and the four bristles of the scutellum are black, and rather long. Pleuræ with white dust. The green color of the abdomen changes gradually upon the posterior segments into golden-green, and the last segment is usually entirely, or at least partially, of a steel-blue color. In the male there is, near the basis of each of the abdominal segments, a narrow, but distinct black band; in the female these black bands are still narrower and less striking. The black hair upon the abdomen and the black bristles before the posterior margin of each of the segments are of considerable length. The hypopygium is rather small, its appendages are not sufficiently well preserved in the described male specimens, to recognize their structure accurately; I perceive only that they are of middling length, rather broad, of a dusky brown, and at the tip of a more black color. Coxæ black, covered with a thin whitish dust; the anterior coxæ with comparatively long white hairs and towards the tip with a few black bristles. Femora black, on the under side with long erect hairs, which are white near the basis and black at the tip, and are much longer in the male than in the female. Fore tibiæ and fore tarsi brownish-yellow, the latter blackened near the extreme tip; the fore tibiæ have on the upper side a row of five or six very long black bristles, which is interrupted long before its end, and of which the last one is the longest and somewhat longer in the female than in the male; I perceive in the male on the under side of the fore tibiæ, in the neighborhood of the root, a rather long, but very fine bristle; in the female this bristle is much shorter, and besides, there are two small bristles inserted at equal distances. The fore tarsi in both sexes are slender and of a plain structure; in the male a little over one and a half, in the female one and a half the length of the tibia; they are beset only with the usual black short hair, nevertheless, in the female, there are on the under side of its very elongated first joint four very short bristles, inserted at equal distances and wanting in the male. Middle tibiæ and middle tarsi black in the described male; dark pitch-brown in the female; the middle tibiæ have, besides the bristles at the tip, four black bristles on the upper side, which are rather long in the male, but still longer in the female; on their under side there is in the male only one long black bristle, which is very near the root; in the female there are on the under side, besides the bristles at the tip, three bristles of considerable length, of which that which is nearest to the root is also the longest. The middle tarsi are of moderate length, beset only with the usual black hairs, though there are in both sexes on the under side of the very elongated first joint a few small, very short bristles; moreover in the male the two last joints, upon their posterior side, are beset with short, but dense, snow-white hair. Hind tibiæ and hind tarsi black or brown-black; the usual black hair upon the former is rather long, especially on the inside in the neighborhood of the basis; on the outside is a row of black bristles, which reaches from the basis as far as the middle. Hind tarsi not strong, much shorter than the tibiæ, the first joint longer than the following ones taken together. Tegulæ with a black margin and with black cilia; the halteres in both sexes brown-black. Wings grayish hyaline, with the usual two blackish transverse bands, which are very extended and diffused, and as they unite again upon the fourth longitudinal vein, they enclose an almost square, not sharply defined, hyaline spot, in the first cell of the posterior margin; the dark coloring begins in the male on the anterior margin of the wing, already before the end of the first longitudinal vein, in the female somewhat beyond it, and extends in all specimens as far as the end of the third longitudinal vein. The posterior transverse vein, which is long and but little inflected, has a very oblique position; the anterior branch of the fourth longitudinal vein forms with it an angle of scarcely sixty degrees, and turns afterwards at a very much rounded right angle towards the tip of the wing.

Hab. Brazil.

9. **guttula** *Wied.* Of this species there is a well-preserved pair in Wiedemann's and another in Winthem's collection. Wiedemann's statement that this species is from Savannah, is a mistake, corrected by himself, and replaced on the etiquette by "Rio Janeiro." In Winthem's collection also, Brazil is mentioned as the locality. Therefore this species must be stricken out from the list of North American species. As Wiedemann's description is not sufficient, I give a more accurate one as follows:—

P. guttula Wied. ♂ and ♀.—Obscure æneo-viridis, capite, scutello et thorace postico interdum violaceis, abdomine cupreo, in apice violaceo, in basi plerumque viridi, facie nudâ, pedibus simplicibus, obscuris, alarum fasciis duabus nigris valde dilatatis, antice conjunctis et postice abbreviatis, in venâ longitudinali quartâ confluentibus, ita ut guttam hyalinam majusculam includant.

♂. Tibiis obscure piceis, halteribus ex fusco nigris, abdomine nigro-fasciato, appendicibus hypopygii minuti parvis, nigricantibus.

♀. Tibiis ex flavo testaceis, halteribus flavis, abdomine subobsolete nigrofasciato.

Dark bronze-green, head, scutellum and hind part of the thorax sometimes violet; abdomen coppery, at the tip violet, at the basis usually green; face glabrous, feet plain and dark colored; the two broad black bands on the wings are united in front and shortened behind; on the fourth longitudinal vein they again run together, so as to enclose a rather large hyaline drop.

♂. Tibiæ dark pitch brown, halteres brown-black; abdomen with black bands; the small hypopygium with small black appendages.

♀. Tibiæ yellow-brownish; halteres yellow; abdomen with but rather indistinct black bands. Long. corp. 0.18—0.22. Long. al. 0.17—0.19.

SYN. *Psilopus guttula* WIEDEMANN, Auss. Zweifl. II, 222, 18.

Of moderately bright, dark-metallic color, which seems to be chiefly green on head and thorax; on the abdomen principally coppery and violet. Head shining green, rarely shining black-green, though the front is always steel-blue or violet; on the vertex, besides the usual bristles, it is also beset with black hairs. The face is not very broad, without hair, and exhibits but a slight trace of whitish dust. Antennæ black, of moderate size; the bristles of the second joint not very long. Palpi black, beset with a few stiff black hairs; proboscis brown-black. Thorax dark metallic green, usually on the lateral margin and sometimes on the whole posterior half of a violet color. The bristles of the thorax and the four bristles of the green or violet scutellum are black; pleuræ green, on the posterior margin more black, everywhere covered with white dust. Abdomen towards the tip, especially in the male, very pointed; its color is usually chiefly coppery, at the tip always violet, near the basis often green; sometimes the violet color extends almost over the whole abdomen, but even then the posterior margins of the fore and middle abdominal segments remain of a coppery color. In the male each of the abdominal segments has near the basis a broad, but not sharply defined black band; there are also traces of them in the female. The black hair on the abdomen and the black bristles before the posterior margin of each segment are but of middling length. The extremely small hypopygium is black; its short appendages are blackish. Coxæ black with thin white dust, the foremost ones with white hair and in the vicinity of the tip with a few black bristles. Femora black, on the under side with rather long erect white little hairs, interspersed now and then with a little black hair. Tibiæ of the male brown, near the root black-brown; the middle tibiæ on the outside with a regular row of obliquely inserted black bristles; on the outside of the fore tibiæ there is a row of five or six black bristles, which does not reach as far as the tip; the hind tibiæ are without bristles. Tibiæ of the female yellow, near the root brown; the fore and middle tibiæ with a few sparse bristles; the hind tibiæ, as in the male, without bristles. Tarsi black-brown, those of the female less dark than those of the male, in both sexes plain; the fore tarsi of the male are about 1½ the length of the tibiæ, their first joint is about 1½ the length of the following joints together, and beset upon the middle of the outside with two black bristles; its middle tarsi are not quite 1½ the length of the tibiæ, their first joint is more than 1½ the length of all the other joints together, and beset with a few black bristles; its hind tarsi are somewhat stout, shorter than the hind tibiæ, and their first joint not much longer than all the others together. The fore and middle tarsi of the female are somewhat shorter than those of the male, and their first joint is much less elongated; its hind tarsi are more slender than those of the male. The tegulæ have a black margin, and are fringed with long black cilia. The halteres of the male are brown-black, those of the female yellow. Wings hyaline with the usual two black bands, united on the anterior margin and abbreviated before the posterior margin; they expand in a rather unusual manner, and coalesce again upon the fourth longitudinal vein, so as to enclose a large drop in the first cell of the posterior margin; on the anterior margin the darker coloring begins rather far before the end of the first longitudinal vein, and does not reach to the end of the third vein; the anterior branch of the fourth longitudinal vein forms an acute angle with it and turns then at a somewhat rounded angle of about eighty degrees towards the tip of the wing, pursuing this course in a rather straight line; the posterior transverse vein is straight, has, however, a somewhat oblique position.

Hab. Rio Janeiro. (Coll. Wied. and Winth.)

10. **caudatus** *Wied.* Wiedemann's statements seem to prove beyond doubt, that this species belongs to the relationship of *P. scobinator;* among the species of this kind I know but one which, like *caudatus*, is distinguished by the extraordinary length of the hairs at the ex-

treme tip of the male abdomen; this species, which I have called *P. caudatulus*, differs, however, from *P. caudatus* by its smaller size too much, to be mistaken for it. In Wiedemann-Winthem's collection no information whatever is to be found about *P. caudatus*. In the Berlin Museum there is a specimen of *P. comatus*, under the name of *P. caudatus;* I cannot, however, acknowledge the correctness of this determination, as Wiedemann distinctly says that the female of his *P. caudatus* has no black femora, like the male, but yellow ones, while this is not the case with *P. comatus*. The typical specimen of *P. caudatus* is in Westermann's collection.

11. **virgo** *Wied.* The description of a female, which also seems to belong to the circle of relationship of *P. scobinator*. The statements which Wiedemann gives about it are so uncertain, that no conclusion as to the species to which the described specimen belonged can be drawn from them. The size, as stated by Wiedemann, is more considerable than the size of the females of all the species of this relationship that are known to me. The typical specimen is not to be found in Wiedemann's collection, so that a satisfactory solution as to this species is probably never to be expected.

12. **mundus** *Wied.* Of this species there are two males in Winthem's collection, marked as Wiedemann's types. Had I known them before I published the Eighth Part of the "Neue Beiträge," I should not have ventured to describe in that volume *P. ciliatus* as a species different from *P. mundus*. Certainly both specimens in Winthem's collection are very much smaller than the male, which was the type of my description of *P. ciliatus*, and their coloring is darker and more distinctly violet; but in all the plastic characters there is much similitude between them and the male, which I have described. The only plastic difference, which I can discover, is the following: in *P. mundus* there is, besides the row of bristles on the outside of the fore tibiæ, also a second row, placed further towards the inside, and which is tolerably complete; in *P. ciliatus* this second row is also present, but it is as complete as in *P. mundus* only in the vicinity of the root of the tibiæ, further on it is (apparently) more incomplete; however, no accurate judgment can be based on a single specimen, and moreover the difference is so trifling, when compared to the great conformity in the extraordinary structure of the wings and of the fore tarsi, that too much stress is not to be laid upon it. As the name "*ciliatus*" has already been bestowed upon this species, I may be permitted to retain it, until the identity of the species, so named, with *P. mundus* has been more positively established. A separate description of the latter is unnecessary, as no mistake can occur if a proper attention is paid to the description of *P. ciliatus*, as well as to what has just been said about these species.

13. **radians** *Macq.* First described in the "*Suites à Buffon;*" the same

description is found in the *Diptères exotiques II*, 2, 122, only in the latter it is said "*jambes* POSTERIEURES *et intermediaires jaunâtres*," instead of "*jambes* ANTERIEURES *et intermediaires jaunâtres*." That this is merely a misprint, is evident from what Mr. Macquart says in *Dipt. exot. II*, 2, 123, at the top of the page. All the characters stated by Mr. Macquart are also those of *P. longicornis* Fabr., so that Macquart's species cannot be distinguished from it.

14. **portoricensis** *Macq.* A very incomplete description of a female first given in the "*Suites à Buffon*," and then repeated in the *Diptères exotiques, II*, 2, 121. Mr. Macquart again mentions this species in *Dipt. exot. Suppl. I*, 120, and furnishes there a figure of the wing (tab. xi, fig. 17). The only character contained in the description and which may lead at once to the recognition of this species, is the pubescence at the basis of the arista; another character of this kind may perhaps be found in Macquart's figure of the wing, where the anterior branch of the fourth longitudinal vein is closely approximated to the margin of the wing. I know of no species possessing these characters.

15. **sipho** *Macq.* I have already remarked that the species, which Mr. Macquart has described under this name, is quite different from the genuine *sipho* Say, and probably identical with *P. jucundus*, with which it will have to be united as a synonym.

16. **incisuralis** *Macq.* The description (*Dipt. exot. Suppl. I*, 120) has been drawn from a female; in an observation, however, Mr. Macquart declares that he possesses a male belonging to this female; the characters, however, which he furnishes render it very doubtful that they belong together. I therefore take into account the description of the female only. It belongs to the group of species which resemble by the picture of their wings *P. diffusus, superbus*, &c., but does not seem to be identical with any of these species; it has also some resemblance with a female in my collection, from Brazil, which Wiedemann himself had determined as *P. guttula*, but which, nevertheless, does not belong to this species; however the band on the wing is much broader and connected with the spot near the tip of the wing not only at the anterior margin, as it is in the other species, but also upon the fourth longitudinal vein. Therefore *incisuralis* seems to be an unknown, but independent species.

17. **delicatus** *Walk.* A female, evidently belonging to the species with pale cilia of the tegulæ. None of the species, known to me, combines pale-colored two first joints of the antennæ with a green-colored abdomen, except *P. filipes* Lw.; this species, however, has a whitish and therefore very striking pubescence of the abdomen. Hence *delicatus* Walk. is not among the species known to me.

18. **gemmifer** *Walk.* The specimen described is a male. In the description no difference can be discovered between it and *sipho* Say, so

that we are induced to take it for a specimen of the latter with a but little developed picture of the wings, unless much stress is laid upon the circumstance, that Walker calls the appendages of the hypopygium "*dark pitchy*," while they are of a brown-black color, even in specimens the color of which is but little developed.

19. **chrysoprasi** *Walk.* Described without statement of the sex. The description agrees tolerably well with a species from Cuba, only the statement about the color of the feet does not agree entirely. Nevertheless I believe it to be the species of Walker; I have described it below with the necessary change of its name in *P. chrysoprasius.*

20. **suavium** *Walk.* Described without stating the sex, evidently a species with black feet, which belongs to the relationship of *patibulatus* Say; the description contains no characters which would assist in determining this species.

21. **amatus** *Walk.* Male and female. The remarkable statement, that the abdominal segments of the male have black bands on their posterior margin, agrees with no species known to me, and probably with no species of *Psilopus* whatever, because the black abdominal bands, apparent in so many species, are always found on the anterior margin of the segments. Mr. Walker means, perhaps, the narrow margins on the posterior border of each segment, which, when seen in a certain light, have a black appearance; or he may have simply made a mistake in stating "posterior margin" instead of "anterior margin." Besides this doubtful statement, all the rest agrees so well with specimens of *patibulatus*, with faded outlines of the picture of the wings, that *amatus* Walk. must be taken for a synonym of this species, until more satisfactory marks of distinction to separate it from *patibulatus* are found.

22. **inficitus** *Walk.* Mr. Walker makes no statement about the sex of the specimen; as however in the group to which this species belongs, the halteres of the males are usually black, and those of the females are usually yellow, we may conclude that it was a male. This being admitted, its description contains no character whereby *inficitus* could be distinguished from dark-colored males of *patibulatus*, and therefore it must be placed at present among its synonyms.

23. **nigrofemoratus** *Walk.* Described without statement of the sex, probably after a male related to *scobinator*. One variety, β, is said to be distinguished by the tip of the femora and the whole tibiæ being yellow. It is easy to perceive that this is no variety, but a different species, and probably the male of *inermis*, which will be described further below. As in this species the tips of the fore and middle femora only are yellow, therefore the femora of *nigrofemoratus* Walk., in conformity with its description, must be of an entirely dark color; thus *nigrofemoratus* cannot be mistaken neither for *scobinator*, nor *calcaratus*, nor *caudatus*, the femora of which are pre-

cisely of the same color as those of *inermis*. I cannot therefore recognize this species of Walker in any of the species known to me.

24. **albicoxa** *Walk.* Male and female. Of the species known to me, only *P. scintillans* approaches this species. Walker says of his species that the fore and middle tarsi are black only at the tip, the hind tarsi, however, entirely black with the exception of the first joint. In my species all the tarsi are of a uniform color, namely, yellow near the root, but from the tip of the first joint black-brown. I cannot therefore take *scintillans* for Walker's *albicoxa*, and the more so, as Walker's description contains no statements about any plastic distinctions, which might serve as a clue to determination, while *scintillans* possesses so remarkable and so striking plastic characters.
25. **lepidus** *Walk.* The described male seems to belong to a species very nearly related to *patibulatus*, or to be this very species. After Walker's description nothing more can be said about it.
26. **ungulivena** *Walk.* The description agrees with none of the species known to me.
27. **solidus** *Walk.* The description of the female of a species with entirely black feet, from the relationship of *patibulatus*, which seems to be distinguished from all similar species by a more robust structure of the body. The description, however, contains nothing which would make it possible to determine this species with more certainty.
28. **peractus** *Walk.* A female from the relationship of *P. longicornis* and *chrysoprasius*. The characters stated are insufficient for its determination.
29. **hæreticus** *Walk.* A female from the relationship of the preceding species and similar to it, also described in a very unsatisfactory manner.
30. **permodicus** *Walk.* The male of a species remarkable by the slenderness of its body, and which Mr. Walker attempts to describe in three lines and a half. I know of no species to which his description might be referred.

Thus, the scanty result of the inquiries attempted on the previously published thirty North American species is the following: Two species, *diffusus* Wied. and *guttula* Wied., must be stricken out from the list of North American species. Of the other species I recognize five among those in my possession, namely, *sipho* Say, *patibulatus* Say, *pallens* Wied., and *chrysoprasi* Walk.; the first three are reproduced below under the same names, the last one as *chrysoprasius*. There is a species which, very probably, is the same with one described by me as new, namely, *mundus* Wied.

with *ciliatus.* Five species have to be recorded as synonyms of others; these are *radians* Macq., as a synonym of *longicornis* Fab., *sipho* Macq. of *jucundus* Loew, *gemmifer* Walk. of *sipho* Say, *amatus* Walk. of *patibulatus* Say, and *inficitus* Walker, likewise of *patibulatus* Say.

Table for the determination of the Species.

1	Tegulæ with black cilia.	2
	Tegulæ with pale cilia.	15
2	Wings with a darker picture.	3
	Wings without picture.	9
3	Wings black, hyaline only at the tip and the hind margin.	1 **dimidiatus** *Lw.*
	Wings hyaline, with two black fasciæ connected on the anterior margin.	4
4	Feet of the ♂ predominantly yellow.	5
	Feet of the ♂ predominantly black.	6
5	First joint of the middle tarsi of the ♂ with a few ordinary bristles upon the anterior side.	2 **sipho** *Say.*
	First joint of the middle tarsi of the ♂ closely ciliated with short erect bristles on the anterior side.	3 **scaber** *Lw.*
6	Face hairy.	4 **patibulatus** *Say.*
	Face without hairs.	7
7	Feet in both sexes entirely black.	5 **melampus** *Lw.*
	Feet in both sexes not entirely black.	8
8	Middle tibiæ and first joint of the middle tarsi of the ♂ ciliated on the upper side.	6 **pilosus** *Lw.*
	Middle tibiæ and first joint of the middle tarsi not ciliated on the upper side in the ♂.	7 **jucundus** *Lw.*
9	First longitudinal vein much prolonged beyond the middle of the wing.	8 **cilliatus** *Lw.*
	First longitudinal vein reaching at the utmost as far as the middle of the wing.	10
10	Arista extremely elongated, apparently apical.	9 **comatus** *Lw.*
	Arista not very elongated, distinctly dorsal.	11
11	Fore tibiæ of the ♂, fore and middle tibiæ of the ♀, yellow.	10 **chrysoprasius** *Walk.*
	All tibiæ of the ♂, in the ♀ also the femora, yellow.	12
12	The first joint of the middle tarsi of the ♂ beset with crooked bristles.	13
	The first joint of the middle tarsi of the ♂ plain.	14
13	Tip of the abdomen of the ♂ with moderately long hairs.	11 **scobinator** *Lw.*
	Tip of the abdomen of the ♂ with exceedingly long hairs.	12 **caudatulus** *Lw.*

14	Middle tibiæ of the ♂ with strikingly long spurs.	13 **calcaratus** *Lw.*
	Middle tibiæ of the ♂ without long spurs.	14 **inermis** *Lw.*
15	Antennæ entirely black.	15 **scintillans** *Lw.*
	Two first joints of the antennæ yellowish.	16
16	Fore femora without thorn-like bristles upon the under side.	17
	Fore femora with yellowish thorn-like bristles upon the under side.	20
17	Abdomen at the basis not yellow.	16 **pallens** *Wied.*
	Abdomen at the basis yellow [not metallic].	18
18	Tarsi for the most part, black.	17 **variegatus** *Lw.*
	Tarsi but little infuscated towards the tip.	19
19	All the coxæ entirely yellow.	18 **bicolor** *Lw.*
	Middle coxæ gray with yellow tip.	19 **psittacinus** *Lw.*
20	All the coxæ entirely yellow.	20 **tener** *Lw.*
	Middle and hind coxæ blackish.	21 **filipes** *Lw.*

Systematic arrangement of the Species.

I. Tegulæ with black cilia.

A. Wings with a dark picture.

A. Wings black, only the tip and the hind margin hyaline.

1. **dimidiatus** *Lw.*

B. Wings hyaline with two fasciæ connected at the anterior margin.

2. **sipho** *Say.*
3. **scaber** *Lw.*
4. **patibulatus** *Say.*
5. **melampus** *Lw.*
6. **pilosus** *Lw.*
7. **jucundus** *Lw.*

B. Wings without dark picture.

A. First longitudinal vein reaching far beyond the middle of the wing.

8. **ciliatus** *Lw.*

B. First longitudinal vein reaching at the utmost but to the middle of the wing.

1. Arista apparently apical and remarkably elongated.

9. **comatus** *Lw.*

2. Arista distinctly dorsal and not remarkably elongated.

a. In the ♂ only the fore tibiæ, in the ♀ also the middle tibiæ, yellow.

10. **chrysoprasius** *Walk.*

b. In the ♂ all tibiæ, in the ♀ also all femora, yellow.

11. **scobinator** *Lw.*
12. **caudatulus** *Lw.*
13. **calcaratus** *Lw.*
14. **inermis** *Lw.*

II. Tegulæ with pale cilia.

A. Antennæ entirely black.

15. **scintillans** *Lw.*

B. The two first joints of the antennæ pale.

A. Fore femora in both sexes, or at least in the ♂, without yellow thorn-like bristles upon the under side.

1. Abdomen at the basis not yellow.

16. **pallens** *Wied.*

2. Abdomen at the basis yellow, not metallic.

a. Tarsi for the most part black.

17. **variegatus** *Lw.*

b. Tarsi towards the end but little infuscated.

α. All the coxæ entirely yellow.

18. **bicolor** *Lw.*

β. Middle coxæ gray with yellow tip.

19. **psittacinus** *Lw.*

B. Fore femora in both sexes with yellow thorn-like bristles upon the under side.

1. All the coxæ entirely yellow.

20. **tener** *Lw.*

2. Middle and hind coxæ blackish.

21. **filipes** *Lw.*

Description of the Species.

I. TEGULÆ CILIATED WITH BLACK.

A. *Wings with a black picture.*

A. Wings black, only the tip and the hind margin hyaline.

1. P. dimidiatus LOEW. ♂.—Nitidissimus, capite thoraceque violaceis, abdomine viridi; pedes simplices, graciles, femoribus nigris, tibiis flavis, tarsis fuscis; alæ ex fusco nigræ, triente apicali et margine postico hyalinis.

Very shining; head and thorax purplish-blue, abdomen green; feet plain and slender with black femora, yellow tibiæ and brown tarsi; wings brownish-black, the last third and the hind margin hyaline. Long. corp. 0.17. Long. al. 0.19.

SYN. *Psilopus dimidiatus* LOEW, Berl. Ent. Zeitschr. VI, 216, 70.

Head purplish-blue; the front has, besides the ordinary black bristles, no pubescence; the naked face is rather densely covered with whitish dust. The small antennæ are black; their second joint is beset with only a few short bristles; the arista is of medium size only and has a dorsal position. Proboscis, brownish-yellow; palpi, blackish-brown. The coloring of the thorax is purplish-blue, shining, but changes upon its posterior half into steel-blue, and before the scutellum even into a bluish-green. Scutellum greenish-blue. Pleuræ black with a greenish reflection, dusted with white. Abdomen metallic-green, shining; the bristles of the single segments before the hind margin are but of medium length. The hypopygium is small; the form and coloring of its appendages cannot be distinguished with certainty in the described specimen, still the size of the appendages seems to be but small. Coxæ brownish-black, dusted with white, the foremost with minute whitish hairs and bristles. The slender, rather glabrous femora are brownish-black, but at the extreme tip, yellow; the yellow tibiæ are slender, beset with very short black hairs, which are somewhat more erect on the middle tibiæ. Tarsi plain, slender, brown, somewhat more brownish-yellow towards the basis; the four anterior ones are much longer than the tibiæ, and their first joint much longer than the four following joints taken together; the hind ones are hardly of the same length with the tibiæ, but their first joint is likewise perceptibly longer than the four following joints taken together. Tegulæ bordered and ciliated with black. Wings brownish-black, the last third, the hind margin, and the greatest part of the anal angle grayish-hyaline; the fore margin of the wing is fringed, almost ciliated with comparatively long, minute hairs; the hind transverse vein has a very oblique position.

Hab. Mexico. (Collect. Winthem.)

B. Wings hyaline with two black bands connected on the anterior margin.

2. P. sipho SAY. ♂ and ♀.—Chalybeus vel viridis, rarius aureo-viridis, nitidissimus, alarum fasciis duabus nigricantibus, antice conjunctis et postice abbreviatis, facie nudâ, pedibus in utroque sexu flavis, maris metatarsis intermediis non ciliatis.

Steel-blue or green, seldom golden-green, very shining; wings with two blackish bands, connected in front and abbreviated behind; face without hairs; feet yellow in both sexes; the first joint of the middle tarsi of the ♂ not ciliated. Long. corp. 0.21—0.24. Long. al. 0.22—0.24.

SYN. *Dolichopus sipho* SAY. Journ. Ac. Philad. III, 84, 1.
Psilopus sipho WIEDEMANN, Auss. Zweifl. II, 218, 9.
Psilopus gemmifer WALKER, List, III, 646.
Psilopus sipho LOEW, Neue Beitr. VIII, 83, 1.

Saturate green, often bluish-green, steel or even purplish-blue, seldom gold-green, always very shining. Face without hairs, its upper part but little convex and separated from the lower part by a shallow impression. Proboscis brownish-yellow. Antennæ black; the pubescence of the second joint only of moderate length; third joint rounded; arista distinctly dorsal; not particularly long. Abdomen with black transverse fasciæ on the fore margin of the segments, which are so narrow in the ♀, that they are entirely concealed beneath the hind margin of the previous segment; in the ♂ the hind segments of the abdomen are often gold-green; the same is sometimes also the case in the ♀, where this gold-green color sometimes also reaches the anterior segments of the abdomen. The pubescence of the abdomen is generally black; in the male it is whitish upon the first segment, on the basis of the second and of the third segments, and on the anterior half of the lateral margin; in the ♀, the pubescence of which is in general shorter, minute whitish hairs are to be found only upon the first segment and on the anterior part of the lateral margin, which hairs are less perceptible than in the ♂. The black bristles before the hind margin of the segments of the abdomen are only of a moderate length. Hypopygium small, black; lamellæ small, black or brownish-black, ciliated with black. Fore coxæ yellowish, with a delicate white pubescence and a few black bristles near their tip. Middle and hind coxæ, including the trochanter, dark. Feet yellowish; all the femora are beset with delicate, minute whitish hairs upon the under side, which are distinctly longer in the ♂ than in the ♀; the fore femora have a row of four to five black bristles upon the hind side; on the middle and hind femora a few thorn-like minute black hairs are to be found upon the hind side, as well as upon the anterior side before the tip. Fore tibiæ entirely yellow; in both sexes, three small bristles are generally to be found upon the upper side; and whilst there are likewise but three upon their outside in the ♀, in the ♂, about six much longer bristles are usually extant. The fore tarsi are yellow at the basis, but become black already before the end of the first joint; in the ♂ they are once and a half the length of the tibiæ, in the ♀ only about once and a third; their first joint is very elongated, so that it is much longer than the remaining joints taken together; besides the usual short pubescence, which is much longer upon the hind side in the ♂ than in the ♀, it has a few small black bristles upon the under side. Middle tibiæ in the ♀ with but a few black bristles upon the upper and front side; in the ♂ besides with a row of erect bristles inserted almost on the under side and running from the base to the tip. Middle tarsi of the same coloring as the fore tarsi, still the black coloring begins generally somewhat earlier in the ♂; they are about once and a half the length of the tibiæ; the first joint alone is not much shorter than the tibia and nearly 1½ the length of the following joints taken together; beside the usual minute hairs, it has upon the under side about seven short black bristles, upon the anterior side one or two somewhat longer ones; the middle tarsi of the ♀ are of the same structure, but somewhat shorter, and the small bristles on their first joint are smaller. Hind tibiæ at the extreme tip black, with the ordinary pubescence, upon the outside with three or four bristles; hind tarsi shorter than the hind tibiæ, entirely black, the first joint once and a half the length of all the following taken together, which are of a gradually decreasing length. The small tegulæ with black border and with long black cilia. Halteres yellowish; the basis of the peduncle blackish. Wings hyaline; costa with the usual short pubescence; the black picture not very extended; the two blackish bands have no connection behind the fourth longitudinal vein; the first band is not seldom interrupted immediately before the fourth longitudinal vein, and the second is never extended as far as the apex. Hind transverse vein moderately oblique, somewhat sinuated; the basis of the anterior branch of the fourth longitudinal vein is nearly twice nearer to the margin of the wing than the hind transverse vein. This branch has, at its origin, a somewhat recurrent direction, and turns from there towards the margin at a right angle, which is rounded at the tip; it reaches the margin somewhat before the apex in the immediate proximity of the tip of the third longitudinal vein.

Hab. Pennsylvania, Georgia, Virginia, Illinois, etc.

Observation 1.—I possess a ♂, which is distinguished from all others, the row of bristles, peculiar to the sex, upon the lower part of the front side of the middle tibiæ being much closer, and being also prolonged over the first joint of the tarsi, where the bristles are much shorter, and there are about ten bristles in all. As, in other respects, this specimen agrees perfectly with the others, and as the row of bristles in question seems liable to vary as to its closeness, I take this specimen for a variety of *P. sipho.*

Observation 2.—It has already been noticed above, that the species described as *P. sipho* by Macquart, is not synonymous with the present one. Walker, in the *List of Dipt.*, has also a *P. sipho*, but as he quotes Macquart's *P. sipho* among the synonyms, and as his own *P. gemmifer* seems to be nothing else but the *P. sipho* Say, it becomes very doubtful whether the *P. sipho* of the *List of Dipt.* is identical with Say's species; this is the reason why it has been omitted in the synonymy. By all means, as Mr. Walker does not describe his species, it is a matter of indifference what he may have meant by it.

Observation 3.—The Imperial Museum in Vienna contains two specimens of *P. sipho* Say, marked as being from New Holland. As there are also two specimens of *P. pallens* with a similar *habitat*, one is justified in supposing that these indications are erroneous.

3. P. scaber Loew. ♂.—Chalybeus vel viridis, nitidissimus, alarum fasciis duabus nigricantibus, antice conjunctis et postice abbreviatis, facie nudâ, pedibus in utroque sexu flavis, tarsorum intermediorum maris articulo primo in latere anteriore pilis minutis erectis confertim ciliato.

Steel-blue or green, very shining; wings with two blackish bands, which are connected in front and abbreviated behind; face without hairs; feet yellow in both sexes, the first joint of the middle tarsi of the ♂ closely ciliated upon the front side with short, erect, minute hairs. Long. corp. 0.24. Long. al. 0.24.

Syn. *Psilopus scaber* Loew, Neue Beitr. VIII, 85, 2.

This species is strikingly like *P. sipho*, but it cannot be taken for its variety in consequence of the structure of the middle tarsi. The above mentioned row of bristles, which the ♂ of *P. sipho* has upon the front side of the middle tibiæ, exists also in *P. scaber*, but is more sparse; towards the end of the tibiæ, it is interrupted, as it evidently appears, not in consequence of the loss of some single bristles. The first joint of the middle tarsi has no bristles whatever upon the front side; instead of that, there are some quite short, stiff, erect, minute hairs of a blackish color, which form a very rough fringe; towards the end of the joint they are decreasing in length, and can hardly be distinguished at the end. The hind tarsi of the only specimen which I possess, seem to be somewhat shorter than those of a male of *P. sipho* of the same size. In all other characters the agreement is complete.

Hab. Pennsylvania. (Von Heyden.)

4. P. patibulatus SAY. ♂ and ♀.—Obscure viridis, nitidus, alarum fasciis duabus nigris, antice conjunctis et postice abbreviatis, facie pilosâ, pedibus nigris.

♂. Halteribus nigris, primo tarsorum anticorum articulo elongato et apicem versus in latere exteriore setis nigris armato, articulis duobus sequentibus brevissimis.

♀. Halterum capitulo flavo.

Dark-green, shining; wings with two black bands, which are connected in front and shortened behind; face hairy; feet black.

♂. Halteres black, the first joint of the fore tarsi elongated, and towards the tip, upon the outside, beset with black bristles, the two following joints extremely short.

♀. Knob of the halteres yellow. Long. corp. 0.20—0.23. Long. al. 0.20—0.23.

SYN. *Dolichopus patibulatus* SAY, Journ. Ac. Philad. III, 87, 7.
Psilopus patibulatus SAY, Journ. Ac. Philad. VI, 168, 2.
Psilopus patibulatus WIEDEMANN, Auss. Zweifl. II, 225, 27.
Psilopus amatus WALKER, List, etc. III, 648.
Psilopus inficitus WALKER, List, etc. III, 649.
Psilopus patibulatus LOEW, Neue Beitr. VIII, 85, 3.

Male. Bright, shining, dark-green, often steel-blue, particularly the head, the posterior part of the thorax, the scutellum and also the front and hind segments of the abdomen. Proboscis and palpi black. Face beset with long whitish or pale fallow-yellowish hairs, but little dusted. Second joint of the antennæ with rather long bristles, the third joint small and rather rounded. Arista distinctly dorsal, of moderate length. Front at the upper eye-corner with a long, black pubescence. Upper side of the thorax and the scutellum with long black bristles. Pleuræ black with a green reflection and slightly dusted with white, which gives them a somewhat grayish appearance. Abdomen shining green, the first segments often, the two last generally, purplish-blue; on the anterior margin of the single segments there are black, not very sharply limited transverse bands, which are broader upon the hind segments than upon the anterior ones. Pubescence of the abdomen black, whitish only on the anterior part of the lateral margin and of the venter; the black bristles before the hind margin of the single segments are of a considerable, but not striking length. The small hypopygium is black with small black lamellæ. Coxæ and feet black, the fore tibiæ only in immature specimens brownish-black; fore coxæ and all femora with a green reflection, the fore coxæ have a rather conspicuous white pubescence, among which are inserted some black bristles; on the under side of the femora there is a long erect pubescence, which has only very near their tip a black, otherwise everywhere a whitish coloring. Tibiæ, besides the usual short black pubescence, with a moderate number of black bristles, which may be easily overlooked on the hind tibiæ, as they are rather short and to be found only upon their outside. First joint of the fore tarsi extremely elongated, about as long as the tibiæ and nearly twice the length of the four following joints taken together; upon the outside, towards the tip, fringed with black bristles; the second and third joints are of equal length, both very short, taken together only as long as the fourth joint; the fifth joint distinctly shorter than the fourth, but longer than the second and third taken singly. Middle tarsi plain, their first joint nearly as long as the tibia and at least 1⅔ times the length of the four following joints taken together; upon the front side with a short and delicate fringe-like pubescence of a black color; the following joints of a gradually decreasing length. Hind tarsi considerably shorter than the tibiæ, their first joint hardly once and a half the length of the four following taken together, which gradually decrease in length and are not thickened. Halteres blackish-brown, sometimes more pale dingy-yellow. Tegulæ with a broad black margin and with long black cilia. Wings hyaline with the usual siphon-like black picture, both bands, which form this picture, are perpendicular, broad, always connected on the fore margin, and generally upon the fourth longitudinal vein, abbreviated before the hind margin; the first longitudinal vein reaches nearly to the middle of the fore margin; the anterior branch of the fourth longitudinal vein diverges from it at an angle of 70 to 80° and turns afterwards at a rounded right angle towards the margin, which it reaches before the extreme apex, near the tip of the third longitudinal vein; the hind transverse vein somewhat oblique, not distinctly sinuated.

Female. It resembles the ♂ in the coloring of the body and the feet, as also in the neuration and the picture of the wings. Its face has a much denser white dust. The bristles on the second joint of the antennæ are considerably shorter, the bristles upon thorax and scutellum are likewise of a lesser length and those before the incisures of the abdomen still much shorter than in the ♂. The black bands of the abdomen are not apparent when the latter is not more stretched out than usual; still the narrow, sharply limited hind margins of the segments appear rather black in a certain light. Feet plain; pubescence and bristles of the femora and tibiæ as in the ♂, but shorter. Tarsi shorter than in the ♂; fore tarsi at least once and a third the length of the tibiæ, the first joint about once and a half the length of the four following, which are of a decreasing length; upon its outside without bristles. Middle tarsi distinctly longer than the tibiæ, their first joint about $1\frac{1}{3}$ the length of the four following taken together; hind tarsi distinctly shorter than the tibiæ; their first joint but little longer than the four following taken together, the length of which diminishes rather rapidly. Peduncle of the halteres brownish-black, knob yellow.

Hab. Chicago, Nebraska, etc. [Common everywhere in the Middle States, O. S.]

Observation.—Say mentions the occurrence of *P. patibulatus* in Mexico. The specimens seen by him may perhaps belong to the following species, which is frequent in Mexico, and he may have been mistaken about their identity with his *P. patibulatus.*

5. P. melampus Loew. ♂ and ♀.—Viridis, saepe ex chalybeo viridis, nitidus, facie nudâ, alarum fasciis duabus nigricantibus, antice conjunctis et postice abbreviatis, pedibus totis nigris.

♂. Abdomine fasciis aequalibus nigris ornato, halteribus ex fusco nigris, primo tarsorum anticorum articulo setis nigris armato, articulis sequentibus duobus non abbreviatis.

♀. Fasciis nigris abdominis angustis, subobsoletis, halterum capitulo flavo.

Green, often bluish-green, shining, face without hairs; the two blackish bands of the wing connected in front and shortened behind; feet entirely black.

♂. Abdomen with black bands of equal breadth; halteres brownish black;

the first joint of the fore tarsi beset with black bristles, the two following not shortened.

♀. The black bands of the abdomen narrow and rather indistinct; the knob of the halteres yellow. Long. corp. 0.17—0.22. Long. al. 0.21—0.23.

SYN. *Psilopus melampus* LOEW, Berl. Ent. Monatschr. VI, 215, 69.

Male. Shining metallic-green, sometimes partly bluish-green, the posterior part of the abdomen generally steel-blue. Proboscis and palpi black. Face rather closely dusted with white, but without hairs. Antennæ black; the second joint with numerous and long black bristles. Arista distinctly dorsal, of a more than moderate length. Front, besides the usual bristles, with a delicate pubescence, which has near the upper corner of the eye a black, towards the middle of the front a nearly whitish coloring. Upper side of the thorax and the scutellum with long black bristles. Pleuræ with a greenish reflection and dusted with white. Abdomen shining green, the anterior segments often, the hindmost usually, steel-blue; on the anterior margin of the single segments there are sharply defined transverse bands, which are broader upon the hind segments. Pubescence of the abdomen black, only on the anterior portions of the lateral margin and of the venter, whitish; the black bristles before the hind margin of the single segments are of a considerable, but not striking length. The small black hypopygium has small black lamellæ. Coxæ and feet black; fore coxæ and all the femora with a bluish-green or blue reflection. Fore coxæ with a considerable whitish pubescence, among which there are some black bristles. Upon the under side of the femora there is a long erect pubescence which is whitish only very near the basis, otherwise black. Fore tibiæ upon the outside with a row of four, or at most five, long black bristles; the last of which is inserted at some distance from the tip of the tibiæ; upon the upper side with three or four quite short bristles, which may be easily overlooked. The pubescence of the middle tibiæ is somewhat more erect than that of the fore and hind tibiæ, and upon the upper side, especially towards the basis, longer; upon the upper side there are four or five longer bristles, the last of which is inserted at a considerable distance from the tip of the tibiæ; upon the under side are four or five shorter bristles at equal distances. The hind tibiæ have, besides the usual pubescence, upon their outside about six bristles at equal intervals. The rather slender fore tarsi about once and a half the length of the tibiæ; their first joint is much longer than the following taken together, and is fringed upon its outside with six or seven long bristles, inserted somewhat closer towards its tip; the four last joints of the fore tarsi are of a gradually decreasing length and of an entirely plain structure. Middle tarsi plain, about once and a third the length of the tibiæ, their first joint about 1½ the length of the following taken together. It has upon its front and upper side an exceedingly short and therefore not quite easily perceptible fringe-like black pubescence. Hind tarsi shorter than the hind tibiæ, the fourth joint about 1¼ the length of the following taken together. Halteres brownish-black. Tegulæ with a very broad black margin and with long black cilia. Wings hyaline with the usual siphon-like picture; both bands forming this picture are perpendicular, generally of only middle breadth, always connected on the fore margin, sometimes also upon the fourth longitudinal vein, and abbreviated before the hind margin of the wings. The first longitudinal vein reaches somewhat beyond the middle of the anterior margin; the anterior branch of the fourth longitudinal vein diverges at an angle of about 70°, and turns afterwards at a somewhat rounded right angle towards the margin, which it reaches before the extreme apex, near the tip of the third longitudinal vein; the hind transverse vein rather oblique, only little sinuated.

Female. It resembles the ♂ in the coloring of the body and of the feet, as also in the neuration, and the picture of the wings. The glabrous face is dusted somewhat closer; the bristles on the second joint of the antennæ are distinctly shorter than in the other sex; the bristles upon the thorax and scutellum are shorter, and those before the posterior margin of the abdomen much shorter than in the male. There is only a vestige of a black band on the basis of the segments of the abdomen. Feet plain. Pubescence upon the under side of the femora much shorter than in the male. Fore tibiæ upon the upper side generally with only two short bristles, upon the outside with three, but little longer ones. Hairs on the middle tibiæ not longer than usual; upon their upper side there are generally only three black bristles, two near the basis and one beyond the middle; upon the under side there are generally four small bristles at equal intervals. Hind tibiæ as in the ♂. Tarsi shorter, plain; the first joint of the fore tarsi without bristles upon the outside. Halteres with blackish peduncle and yellow knob.

Hab. Mexico.

Observation 1.—This species varies somewhat in the extension of the bands on the wings, still they are never as broad as in *P. patibulatus*, but sometimes interrupted between the third and fourth longitudinal veins.

Observation 2.—I was in possession of the ♀ of this species a long time ago, but although convinced of its specific distinctness (vid. Neue Beitr., VIII, 86), I would not describe it without the male. It is easily distinguished in both sexes from *P. patibulatus*, with which, among the species known to me, it has the closest resemblance, by its glabrous face, and besides, in the male, by the different structure of the fore tarsi. I presume that Say has confounded this Mexican species with his *P. patibulatus*, of which he says he has seen Mexican specimens.

6. P. pilosus Loew. ♂.—Ex chalybeo viridis, nitidus, abdomine fasciis aequalibus nigris ornato, alarum fasciis duabus nigricantibus, antice conjunctis et postice abbreviatis, facie nudâ (?), pedibus nigris, tibiis anticis tarsorumque intermediorum articulo primo testaceis, hoc et tibiis intermediis in latere superiore breviter ciliatis.

Bluish-green, shining, abdomen with equal, broad, black bands; the two blackish bands of the wings connected in front, shortened behind; face without hairs (?); feet black, the fore tibiæ and the first joint of the middle tarsi brownish-yellow; the latter and the middle tibiæ upon the upper side, provided with short cilia. Long. corp. 0.24. Long. al. 0.25—0.26.

Syn. *Psilopus pilosus* Loew, Neue Beitr., VIII, 86, 4.

Bright green, the head, the hind part of the thorax, the scutellum, as also the basis and the tip of the abdomen, in the described specimen, more steel-blue and bright shining. Palpi black; proboscis brownish-yellow. Face rather closely dusted with white, in the described specimen without all pubescence, which however may have been rubbed off. Second joint of the antennæ upon the under side with rather long, upon the upper side with shorter bristles, these curved forward; third joint small, rounded; arista distinctly dorsal, of medium length. Front with a black pubescence in the upper corner near the eye. Thorax and scutellum with rather long black bristles. Pleuræ black with a green reflection, somewhat gray, by being slightly dusted with whitish. Pubescence of the abdomen more erect and longer than usual, black, only whitish on the anterior part of the lateral margin and of the venter. The small hypopygium black, with blackish-brown lamellæ. Coxæ and feet black; coxæ with a greenish reflection, rather closely dusted with white; the foremost with a distinctly whitish pubescence and with some stout black bristles. Under side of the femora with a delicate, long, erect pubescence, which, quite near the tip of the femora, has a black, otherwise everywhere a whitish coloring. Fore tibiæ yellowish-brown, upon the upper side dark-brown, and near the basis almost black, upon the outside fringed with not very numerous, but proportionally long black bristles. Middle tibiæ black, only yellowish-brown at the end of the inner side, ciliated upon the front side with a regular row of moderately long black bristles; upon the upper side fringed with moderately long and somewhat erect black hairs, upon the first third of the hind side with some moderately long black bristles, at the tip with three longer black bristles, of which one is inserted on the inner side, the two others upon the front side. Hind tibiæ entirely black, rather long, with somewhat coarse black hairs and a few short black bristles, which are inserted between the upper and the hind side. Fore tarsi slender, nearly twice the length of the tibiæ; the first joint alone is somewhat longer than the tibia and about once and a third the length of the four following taken together, the length of which is rapidly decreasing; no unusual pubescence or bristles are to be seen on the fore tarsi. Middle tarsi twice the length of the tibiæ; their first joint alone much longer than the tibia, about once and a half the length of the four following taken together, brownish-yellow, straight, somewhat stouter than usual, upon its upper side regularly ciliated with erect, minute, black hairs; the four last joints black, of decreasing length. Hind tarsi entirely black, much shorter than the tibiæ; first joint once and a half the length of the four following taken together; second joint about as long as the three following taken together; these are rather short, of almost equal length and somewhat flattened, so that the end of the hind tarsi looks somewhat stouter than usual. Halteres black; tegulæ with a broad black border and long black cilia. Wings hyaline, proportionally larger than in *P. patibulatus*, with the usual siphon-like black picture; the two black bands not particularly broad, as usual, shortened behind, only connected on the fore margin; the anterior branch of the fourth longitudinal vein diverges from this at an angle which approaches a right one and turns afterwards towards the margin at a rounded angle, which is perceptibly larger than a right one; it reaches the margin before the apex near the tip of the third longitudinal vein; posterior transverse vein oblique, distinctly sinuated.

Hab. Cuba. (Riehl.)

7. P. jucundus Loew. ♂ and ♀.—Viridis, vel ex viridi chalybeus, nitidus, alarum fasciis duabus nigricantibus, antice conjunctis et postice abbreviatis.

♂. Abdomine fasciis latioribus nigris ornato, halteribus fuscis, coxis pedibusque nigris, tibiis anterioribus tarsorumque anticorum articulo primo flavis, tibiis posticis ex nigro fuscis.

♀. Abdominis fasciis nigris angustissimis obsoletis, halteribus, coxis anticis pedibusque flavis, genibus posticis, tibiarum posticarum dimidio apicali, tarsorum anteriorum articulis quatuor ultimis, tarsis denique posticis totis ex nigro fuscis.

Green or green-blue, shining; the two blackish bands of the wings connected in front, shortened behind.

♂. Abdomen with broad black bands; halteres brown, coxæ and feet black, the four anterior tibiæ and the first joint of the two fore tarsi yellow, the two hind tibiæ blackish-brown.

♀. The black bands of the abdomen very narrow and indistinct; halteres, fore coxæ and feet yellow, the knees of the hind feet and the apical half of the hind tibiæ, the four last joints of the four anterior tarsi, and the whole posterior tarsi blackish-brown. Long. corp. 0.15—0.20. Long. al. 0.18—0.20.

Syn. *Psilopus sipho* Macquart, Dipt. exot. II, 2, 119. Tab. XXI, Fig. 1.
Psilopus jucundus Loew, Neue Beitr. VIII, 87, 5.

Male. Bright green, the head, the hind part of the thorax, the scutellum and the basis of the abdomen more steel-blue in the described specimen. Palpi black. Proboscis yellowish-brown. Face without hairs, moderately dusted with white. Bristles upon the second joint of the antennæ and the arista not very long, the latter distinctly dorsal. Front with a scattered white pubescence. Thorax with but moderately long, scutellum with longer black bristles. Pleuræ black with a green reflection and rather closely dusted with white. Abdomen with black bands at the basis of the single segments, which are broader on the hind segments than upon the anterior ones. The scattered pubescence of the abdomen black, whitish only on the anterior part of the lateral margin and of the venter. The black bristles before the hind margin of the single segments of a very moderate length. The very small hypopygium blackish; the blackish-brown lamellæ very narrow, nearly filiform. Coxæ black or brownish-black, somewhat dusted with white, the foremost with a rather distinct white pubescence and with a few black bristles. Femora black, with a green reflection, the extreme tip of the foremost ones yellowish, that of the hind ones brown; their lower side fringed with minute, erect whitish hairs, which are much more scarce and longer on the hind femora. The fore femora have, upon their hind side near the tip, three successive black bristles. Fore tibiæ yellowish, upon the first half of their hind side with three rather considerable black bristles of a decreasing length. Middle tibiæ yellowish, with a few black bristles at the tip, otherwise only with some very short minute black bristles. Hind tibiæ dark-brown, with the usual black hairs, nearly without any apparent bristles. Fore tarsi slender, over $1\frac{2}{3}$ the length of the tibiæ; their first joint is yellowish-brown, darker at the tip and not quite as long as the tibiæ, also hardly longer than the four following joints taken together; it has upon its hind side three rather considerable bristles of increasing length; the four following joints of the fore tarsi are blackish-brown, more yellowish-brown at the basis, at least once and a half the length of the tibiæ; their first joint nearly as long as the tibiæ and once and a third the length of the following joints taken together, which are of a decreasing length; no unusual pubescence or bristles on the the middle tarsi. Hind tarsi brownish-black, distinctly shorter than the tibiæ; first joint hardly longer than the four following joints taken together; the length of the latter is rapidly decreasing. Halteres dingy-brown. Tegulæ with a narrow black margin and black cilia. Wings hyaline with the usual siphon-like blackish picture; the two bands are perpendicular, of medium breadth, still rather distant from each other, connected only on the anterior margin; the anterior branch of the fourth longitudinal vein diverges from it at an angle of about 70° and turns afterwards towards the margin of the wing at a but little rounded angle; it reaches it before the apex, near the third longitudinal vein; posterior transverse vein moderately oblique and nearly straight.

Female. Face likewise without hairs. The bristles on the second joint of the antennæ much shorter than in the male; the arista, the bristles upon the thorax and upon the scutellum are also distinctly shorter, those before the hind margin of the segments of the abdomen much shorter than in the male. Transverse bands at the basis of the segments of the abdomen are present, but very narrow. Fore coxæ yellow, with a whitish pubescence and a few black bristles. Middle and hind coxæ black or blackish-brown. Femora yellow, the extreme tip of the hind femora dark-brown, the under side of all beset with very short minute whitish hairs; on the hind side of the fore femora there are only a few minute black hairs near the tip, but no bristles. Tibiæ yellow, the extreme basis and the apical half of the hind ones brown; the fore tibiæ near the basis with a small minute bristle upon the upper side and, farther towards the middle, with two such bristles upon the hind side. The middle tibiæ have, besides the bristles at the tip, a few more bristles, which are longer than in the male. Hind tibiæ upon the outside with two, at the utmost with three, quite short black bristles. Fore tarsi about once and a half the length of the tibiæ, dark-brown; the first joint as long as the four following taken together, upon the hind side with three hardly perceptible, short bristles. Middle tarsi blackish-brown, only brownish-yellow at the basis, distinctly longer than the tibiæ; their first joint over 1⅓ the length of the following taken together, which are of a decreasing length. Hind tarsi blackish-brown, otherwise as in the male. Wings exactly as in the male.

Hab. Cuba. (Riehl.)

Observation 1. Brazilian specimens of *P. jucundus* are to be found in Winthem's and Wiedemann's collections.

Observation 2. I hope not to have been mistaken in the specific identity of both sexes, although the bristles of the tibiæ in the ♀ do not correspond exactly to those in the ♂, as is usually the case. The great resemblance in the neuration and the picture of the wings seems to warrant the specific identity. Should I be mistaken I beg to take the ♂ for the type of the species.

B. *Wings without dark picture.*

A. *First longitudinal vein extending far beyond the middle of the wing.*

8. P. ciliatus Loew. ♂.—Chalybeus, nitidissimus, alis immaculatis, venâ longitudinali primâ elongatâ et costâ pilis subtilissimis ciliatâ, pedibus nigris, tarsorum anticorum articulo primo nigro-setoso, articulo secundo perbrevi.

Steel-blue, very shining; wings without picture, third longitudinal vein elongated, costa ciliated with extremely delicate, minute hairs. Feet black, the first joint of the fore tarsi with black bristles; the second extremely short. Long. corp. 0.17. Long. al. 0.18.

SYN. (?) *Psilopus mundus* WIED., Auss. Zweifl. II, 227, 30.
Psilopus ciliatus LOEW, Neue Beitr. VIII, 88, 6.

Very shining steel-blue, the upper part of the face, the middle of the front and the lateral margin of the abdomen green, the sides of the front and the middle of the abdomen of a beautiful purplish color. Face without hairs, only the lower part somewhat dusted with white. Palpi black; proboscis brown. Antennæ unusually short; their second joint with moderately long bristles; third joint small; the arista not very long, subapical. Bristles upon thorax and scutellum of medium length. Pleuræ black with a greenish reflection, gray on account of a whitish dust. Abdomen shorter and broader than usual, black, on the lateral margin and on the venter for the most part whitish; the bristles before the posterior margin of the single segments of only a moderate length and thickness. The small hypopygium black. Coxæ and all the feet black; fore coxæ with a white pubescence and with a few black bristles. Femora with a green reflection, upon the under side very scarcely fringed with long, erect, minute hairs, which have near the tip of the middle and of the hind femora a black, otherwise a whitish color; the hind side of the fore femora has a rather distinct black pubescence towards its end. Fore tibiæ upon the outside with numerous hair-like, rather long, black bristles. Middle tibiæ beset with a moderate number of proportionally rather long black bristles. Hind tibiæ upon the outside with a row of about six black bristles. Fore tarsi but little longer than the tibiæ; their first joint only very little longer than the four following taken together, fringed upon its outside with many black bristles; the second joint extremely short, hardly as long as the fifth and but very little longer than half the third; the fourth joint only very little shorter than the third. Middle tarsi somewhat longer than the tibiæ; first joint about once and a quarter the length of the four following taken together, with a few very short, black bristles; the second to the fourth joint of gradually decreasing length; fifth joint very small. Hind tarsi much shorter than the tibiæ, the first joint but little longer than the four following taken together; the second to the fourth joint of gradually decreasing length, the fifth joint very short. Halteres dingy clayish-yellow, the basis of the peduncle black, and the upper side of the knob brown. Tegulæ with a broad black margin and long black cilia. Wings hyaline with black veins; auxiliary vein unusually indistinct, still present, first longitudinal vein extending far beyond the middle of the anterior margin; the margin has a fringe of very delicate, erect, curly, minute hairs, from the humeral transverse vein to the tip of the first longitudinal vein, which are longest between those two points where the margin is slightly sinuous; the anterior branch of the fourth longitudinal vein diverges from this at an angle which is almost a right one, and turns afterwards, more in a curve than at an angle, towards the margin of the wing, which it reaches before the apex, immediately near the tip of the third longitudinal vein; the posterior transverse vein is rather oblique and only very little sinuated.

Hab. Florida. (Osten-Sacken.)

Observation.—I have already remarked above, with regard to *P. mundus* Wied., that *P. ciliatus* differs from it only by its larger size, its more steel-blue than purplish coloring, and, as it seems, by a very trifling difference in the bristles of the fore tibiæ; it is therefore very likely but a mere variety of the former.

B. *First longitudinal vein at the most reaching to the middle of the wing.*

1. Arista apparently apical and strikingly elongated.

9. P. comatus Loew. ♂ and ♀.—Viridis, ex parte chalybeus, nitidissimus, fasciis abdominalibus obscuris nullis, setâ antennarum subapicali elongatâ, pedibus longis, gracilibus, dilute flavis, coxis femoribusque nigris, setis in superiore tibiarum anteriorum latere perlongis.

♂. Setis capitis, thoracis, scutelli abdominisque tenuibus, longissimis, appendicibus hypopygii pallidis, tarsorum anticorum articulo primo tarsisque intermediis superne ciliatis.

♀. Setis capitis, thoracis, scutelli abdominisque tenuibus, mediocribus, tarsorum anticorum articulo primo setulis minutis subciliato, tarsis intermediis simplicibus.

Green, partly steel-blue, very shining, without dark bands on the abdomen; wings without picture; the elongated arista apparently apical; feet long, slender, pale-yellowish, coxæ and femora black; the bristles upon the upper side of the four anterior tibiæ very long.

♂. Bristles upon head, thorax, scutellum, and abdomen slender, extremely

long; the appendages of the hypopygium pale; the first joint of the fore and middle tarsi ciliated upon the upper side.

♀. Bristles upon head, thorax and abdomen, slender, of medium length; the first joint of the fore tarsi indistinctly ciliated with very short minute bristles, middle tarsi plain. Long. corp. 0.18—0.23. Long. al. 0.20—0.24.

SYN. *Psilopus comatus* LOEW, Neue Beitr. VIII, 89, 7.

Male. Bright shining-green; thorax and scutellum (in the described specimen) more steel-blue, and the head handsome purplish-blue. Palpi black; proboscis brown. Face without hairs, broader than usual; its small under side is dusted with grayish-white, the upper part more convex and, from a side view, more projecting than usual. The second joint of the antennæ with a small number of rather long, but not very stout bristles; the third joint ovate; arista apparently apical, but, in fact, only subapical, still considerably shorter than the body. Front with a scattered, very delicate white pubescence; the black bristles, inserted upon the ocellar tubercle and in the immediate proximity of the upper corner of the eye are hair-like and of a quite unusual length. The black bristles upon the upper side of the thorax and of the scutellum are of the same hair-like description; also those inserted before the incisures of the abdomen, the latter are only of a still more striking length than the former. Upon the upper side of the abdomen there seem to be, besides the long bristles before the incisures, only single short hairs of a black color; upon the first segment, however, as also on the lateral margin and on the venter, there is a very long whitish pubescence; long, hair-like, black bristles are also to be found on the hind margin of the segments of the venter, similar to those upon the upper side of the abdomen. No black bands are perceptible at the base of the abdominal segments. The hypopygium is partly destroyed in the described specimen; it seems that it was brownish-black, and that it had horn-shaped yellow appendages. Coxæ black, the foremost with a long white pubescence and with some black bristles. Femora black, with a green reflection; the very extreme tip of the foremost ones yellow, all fringed with a scattered erect pubescence of a white color, which is everywhere of a considerable length, but longest upon the under side. Tibiæ and tarsi very slender, yellowish; the usual black hairs rather scattered and very short. The fore tibiæ upon the first two-thirds of their upper side, fringed with a row of hair-like bristles, which are alternately of remarkable length, and the last of which much exceeds all the others in length. Middle tibiæ with a moderate number of hair-like black bristles, which are also distinguished by their unusual length, especially those upon their upper side. Hind tibiæ only upon the upper side with short bristles, which are but little distinguished from the usual minute hairs. Fore tarsi at least twice the length of the tibiæ, very slender; their first joint somewhat longer than the four following taken together, upon its upper side with a regular row of proportionally very long hair-like black bristles; the following joints of rapidly decreasing length; the third, at the upper side of the tip, with a single bristle-like black hair; the fifth joint blackish-brown. Middle tarsi very slender, about once and a third the length of the tibiæ, from the tip of the third joint blackish-brown; their first joint about over $1\frac{1}{3}$ the length of the four following taken together, the length of which is quickly decreasing; upon its upper side it is regularly ciliated with bristle-like hairs; this fringe continues over the upper side of the three following joints, but there it is shorter, more delicate, and closer; the last joint is not ciliated, but has upon its upper side a short, appressed, snow-like pubescence, which is not very distinct. Hind tarsi not quite as long as the tibiæ; their first joint yellowish-brown, distinctly longer than the following taken together; these are blackish-brown and of decreasing length. Halteres yellowish; tegulæ with a broad black margin and long black cilia. Wings somewhat narrow, hyaline, with blackish-brown veins, not ciliated on the fore margin, the first longitudinal vein reaches nearly to the middle of the fore margin; the anterior branch of the fourth longitudinal vein diverges at a rather acute angle and turns towards the margin at a rounded right angle, reaching it before the apex, near the tip of the third longitudinal vein; hind transverse vein very oblique, little sinuated.

Female. It resembles the male very much. Face somewhat broader. Bristles on the second joint of the antennæ, the arista, the bristles upon the ocellar tubercle, at the upper corner of the eye, upon the upper side of the thorax, and upon the scutellum shorter; the bristles before the incisures of the abdomen are very considerably shorter; on the venter, as it seems, there are none at all. The black pubescence upon the upper side of the abdomen is less scarce than in the male, if it has not been perhaps somewhat rubbed off in the latter; the whitish pubescence of the venter much shorter. Feet of the same coloring as in the male; the whitish pubescence of the femora is much shorter, still upon their under side of considerable length for a female; upon the under side of the fore femora, near the basis, there are also some stiff, nearly bristle-like whitish hairs of a remarkable length. Pubescence and bristles of the tibiæ generally like those of the male, still all bristles are not so long, and upon the upper-side of the fore tibiæ, the alternating shorter bristles are very small. Fore tarsi hardly once and a half the length of the tibiæ; their first joint much longer than the following taken together, fringed upon the upper side with a regular row of short black bristles, upon the under side with only a few still shorter black bristles; the following joints of decreasing length, from the second to the fourth brown, the fifth black. Middle tarsi distinctly longer than the tibiæ, not ciliated upon the upper side; the first joint distinctly longer than the four following taken together; the latter black-brown and of decreasing length. Hind tarsi brownish-black, much shorter than the tibiæ, the first joint hardly somewhat longer than the following taken together. Wings as in the male, only somewhat shorter, also proportionally less narrow.

Hab. Middle States. (Osten-Sacken.)

Observation.—Whether the distinctly darker color of the tarsi of the ♀ is only an accidental, individual deviation or not, cannot be judged from a single specimen of each sex.

2. Arista distinctly dorsal and not particularly elongated.

a. Fore tibiæ only in the ♂, fore and middle tibiæ in the ♀, yellow.

10. P. chrysoprasius Walk. ♂ and ♀.—Viridis, vel ex viridi chalybeus, nitidus, alis immaculatis, facie nudâ.

♂. Abdomine fasciis latiusculis nigris ornato, halterum nigrorum capitulo fusco, pedibus nigris, tibiis anticis flavis, tarsorum intermediorum articulo primo superne pilis erectis rigidis ciliato.

♀. Abdominis fasciis nigris, angustissimis, halteribus flavis, pedibus nigris, tibiis anterioribus flavis.

Green or greenish-blue, shining; wings without picture, face without hairs.

♂. Abdomen with rather broad black bands; knob of the black halteres brown; feet black, the fore tibiæ yellow, the first joint of the middle tarsi upon the upper side ciliated with upright stiff hairs.

♀. Abdomen with extremely narrow bands; halteres yellow; feet black, fore and middle tibiæ yellow. Long. corp. 0.19—0.23. Long. al. 0.18—0.20.

SYN. *Psilopus chrysoprasi* WALKER, List, etc. III, 646.
Psilopus chrysoprasius LOEW, Neue Beitr. VIII, 90, 8.

Male. Very shining, green, the head, the hind part of the thorax, the scutellum, and the anterior segments of the abdomen more steel-blue, the last segments of the abdomen sometimes golden-green. Palpi black; proboscis brown. Face without hairs, thinly dusted with white; its upper part rather convex. The bristles on the second joint of the antennæ rather long; the arista dorsal and of ordinary length. Front with a long whitish pubescence and the usual black bristles upon the thorax and the scutellum of a rather considerable length. The black bands of the abdomen are narrow upon the anterior segments and of considerable breadth upon the posterior ones. The black pubescence of the abdomen is rather short; upon its first segments, as also upon the anterior part of the lateral margin and the venter there is a delicate white pubescence, while the hind part of the venter has a black pubescence of considerable length. The black bristles before the incisures of the abdomen are numerous, but rather short. The small hypopygium black, its lamellæ dark-brown. Coxæ black, the foremost with a considerable white pubescence and a few black bristles. Femora black with a greenish reflection, upon the under side with a long, upright, whitish pubescence. Fore tibiæ brownish-yellow, fringed with only a moderate number of short black bristles. Middle tibiæ brownish-black, sometimes nearly black, beset upon the front side with a regular row of black bristles, otherwise only with a small number of them; upon the upper side with rather bristle-like black hairs. Hind tibiæ black with coarse black hairs, upon the outside fringed with a regular longitudinal row of black, only moderately long, bristles. Fore tarsi rather slender, about once and a third the length of the tibiæ; the first joint brownish-yellow, much longer than the following taken together, upon the hind side with three or four stout black bristles; the following joints blackish-brown, from the second to the fourth of rapidly decreasing length, the fifth as long as the fourth. Middle tarsi about once and a half the length of the tibiæ; the first joint black-brown, nearly twice the length of the following taken together, upon its upper side with a regular fringe of stiff, perpendicularly erect, bristle-like, minute hairs, upon the under side with about seven minute black bristles; the joints of the tarsi from the second to the fourth very rapidly decrease in length, so that the second is still somewhat longer than the third and fourth taken together; the fifth joint not shorter than the fourth; the ciliation of the first joint of the tarsi continues also over the upper side of the second and third joints, but consists there of little hairs of gradually diminishing length, so that finally it becomes almost imperceptible. Hind tarsi black, perceptibly shorter than the tibiæ; their first joint somewhat longer than the following taken together, the length of which is gradually decreasing. Halteres blackish, the knob brown or dingy brownish-yellow; the tegulæ with a broad black border and long black cilia. Wings hyaline with black veins; the first longitudinal vein reaches nearly to the middle of the wing; the anterior branch of the fourth longitudinal vein diverges from it under a nearly right angle, and turns afterwards in a curve towards the margin, which it reaches rather far from the apex, immediately near the tip of the third longitudinal vein; hind transverse vein rather oblique, hardly somewhat sinuated; the space between the margin of the wing and the third longitudinal vein, beyond the tip of the first longitudinal vein, is somewhat more grayish than the remaining surface of the wing.

Female. Very like the ♂. The face but little broader. The arista, the bristles of the second joint of the antennæ, those upon front, thorax and scutellum, as also before the incisures of the abdomen, are much shorter. The white pubescence on the under side of the femora also shorter, still of a considerable length for a ♀. Fore tibiæ as in the ♂, still the bristles shorter. Middle tibiæ brownish-yellow, with scattered black bristles of medium length. Fore tarsi but little shorter than in the ♂, however of the same structure and coloring. Middle tarsi plain, brownish-black, not quite once and a half the length of the tibiæ; their first joint not ciliated. Halteres light-yellowish with blackish peduncle. Wings as in the ♂, still without the gray shade, which is to be found in the latter beyond the tip of the first longitudinal vein.

Hab. Cuba. (Poey.)

b. In the male all the tibiæ, in the female also all femora yellow.

11. P. scobinator Loew. ♂ and ♀.—Parvus, nitidissimus, viridis vel ex viridi chalybeus, facie pilosâ, alis immaculatis, anteriore venæ longitudinalis quartæ ramulo arcuatim ducto, halteribus flavis.

♂. Abdomine fasciis nigris angustis ornato et in apice pilis solito paulo longioribus vestito, femoribus nigris, viridimicantibus, summo femorum anteriorum apice tibiisque omnibus flavis, tibiarum posticarum apice tarsisque omnibus ex fusco nigris, primo tamen tarsorum anticorum articulo flavo, calcare tibiarum intermediarum longissimo, primo tarsorum intermediorum articulo setulis incurvis scabro.

♀. Fasciis abdominalibus nigris nullis, coxis anticis, femoribus tibiisque omnibus flavis, extremo tibiarum posticarum apice tarsisque omnibus ex fusco nigris, basi tamen tarsorum anteriorum flavâ.

Small, very shining, green or greenish-blue; face hairy; wings without picture, the anterior branch of the fourth longitudinal vein arch-like; halteres yellow.

♂. Abdomen with narrow black bands, at the tip with a somewhat shorter pubescence than usual; femora black, with a green lustre, the extreme tip of the four anterior femora and all tibiæ yellow, the tip of the hind tibiæ and all tarsi brownish-black, still the first joint of the fore tarsi yellow, the spur of the middle tibiæ extremely long; the first joint of the middle tarsi rasp-like, being beset with crooked bristles.

♀. Abdomen without black bands; fore coxæ, all femora and all tibiæ yellow; the extreme tip of the hind tibiæ and all tarsi brownish-black, still the basis of the fore and middle tarsi yellow. Long. corp. 0.15—0.16. Long. al. 0.15.—0.16.

Syn. *Psilopus scobinator* Loew, Neue Beitr. VIII, 91, 9.

Male. Handsome shining, green, sometimes partly steel-blue. Palpi black; proboscis brownish-yellow. Face with a long whitish pubescence and not very closely dusted with white. The second joint of the antennæ with moderately long bristles; the arista itself only of the usual length. The delicate scattered pubescence of the front generally yellowish, more seldom whitish; the usual black bristles upon the ocellar tubercle and in the upper eye-corner rather long. The bristles upon thorax and scutellum are also rather long. The hind part of the abdomen is more pointed in the shape of a cone than in most of the other species; the black bands at the basis of the segments of the abdomen are narrow, broader only upon the segments. The short pubescence of the abdomen is black; upon the first segment, as also on the anterior part of the lateral margin and on the greater part of the venter it is whitish; the black bristles before the incisures are not remarkably long; the bristle-like hairs at the extreme tip of the abdomen are rather long. The small hypopygium is black, with extremely small black appendages. Coxæ black, dusted with white, the foremost with a white pubescence and a few black bristles. Femora black with a green reflection; the anterior ones light yellow at the extreme tip; upon the under side of all there is a delicate, erect, rather sparse pubescence of medium length. Tibiæ yellow; the hindmost colored with blackish-brown to a rather considerable extent at the tip. Fore tibiæ upon the upper side with about four short black, minute bristles, upon the hind side with about six still shorter ones. Middle tibiæ upon the first half of the hind side with three not very long black bristles; a perceptibly longer bristle is to be found upon the first quarter of the front side, another near its end; immediately before the end on the under side an unusually long, straight, diverging, black bristle assumes the shape of a rather striking spur of the tibia. On the hind tibiæ, besides the black bristles inserted at the tip, there is but one bristle deserving to be noticed, upon the first third of the outside. Fore tarsi slender, somewhat longer than the tibiæ; their first joint yellow, only at the extreme tip brownish-black, nearly once and a half the length of the following taken together; the latter are brownish-black; from the second to the fourth of rapidly decreasing length, the fifth as long as the fourth. There are no bristles nor any unusual pubescence on the fore tarsi. Middle tarsi brownish-black, considerably shorter than the tibiæ; their first joint about once and a quarter the length of the following taken together, its whole length upon the under side fringed rasp-like with short black bristles, crooked downwards, and inserted in a row on both sides; the four following joints of decreasing length. Hind tarsi black, hardly two thirds of the length of the tibiæ; their first joint little longer than the following taken together; the second to fourth joint of rapidly decreasing length; the two last joints of an equal length, somewhat flattened. Halteres yellowish with blackish peduncle; tegulæ with black cilia. Wings hyaline with black veins; the end of the first longitudinal vein is a considerable distance before the middle of the wing; the anterior branch of the fourth longitudinal vein diverges from it at an angle which is very nearly a right one, and turns then arch-like towards the margin, which it reaches rather far before the apex, quite near the tip of the third longitudinal vein; hind transverse vein moderately oblique and nearly straight.

Female. Face somewhat broader than in the ♂. All bristles perceptibly shorter. Abdomen, in the usual position of the segments, without black bands. Fore coxæ yellow, at the extreme basis often colored with gray; their white pubescence much shorter and the black bristles more striking. All the femora altogether yellow, fringed upon the under side with but very short, erect, whitish hairs. Tibiæ quite yellow, the hindmost somewhat infuscated only at the extreme tip. The bristles of the tibiæ are quite like those of the ♂, still some of the bristles are missing, or at least shorter. Tarsi plain, somewhat shorter than in the ♂; the first joint of the middle tarsi brownish-yellow, upon the under side with but a few very short black bristles.

Hab. New York, Illinois. (Osten-Sacken.)

Observation 1.—With *P. scobinator* begins a series of very closely resembling species, which agree in a remarkable manner not only in size and coloring, but also in the majority of the plastic characters. The structure of the middle feet in the ♂ shows differences, which leave no doubt as to their specific distinctness. The distinction of their females offers such difficulties, that I am unable to overcome them with the materials at my command. I have received *P. scobinator* in so large numbers, that the ♀ belonging to this species is surely abundantly represented among them; but whether I have not confounded with it females of the three following species, I am not able to tell. Some of the females, I suspect, belong to *P. caudatulus*, others may be *P. inermis*, but I am not positively certain about any one of them. Positive characters for the distinction of the females of these species can only be acquired by the observation of the species in life.

Observation 2.—There is no doubt that *P. femoratus* Say belongs to the present group. Whether it is one of the species known to me, and which of them, I cannot decide, as Say does not mention any of those plastic characters by which alone they can be distinguished, and as the ♂ specimen sent by Say to Wiedeman has not been preserved in the collection of the latter.

12. P. caudatulus Loew. ♂.—Parvus, nitidissimus, viridis vel ex viridi chalybeus, facie pilosâ, alis immaculatis, anteriore venæ longitudinalis quartæ ramulo arcuatim ducto, halteribus flavis.

♂. Abdomine fasciis nigris angustis ornato et in apice pilis solito multo longioribus vestito, femoribus nigris, viridimicantibus, summo femorum anteriorum apice tibiisque omnibus flavis, apice tibiarum posticarum tarsisque omnibus ex fusco nigris, tarsorum anteriorum basi tamen flavâ, calcare tibiarum intermediarum longissimo, primo tarsorum intermediorum articulo setulis incurvis scabro.

♀. . . . .

Small, very shining, green or bluish-green; face hairy; wings without picture; the anterior branch of the fourth longitudinal vein arched; halteres yellow.

♂. Abdomen with narrow black bands, at the tip with much longer hairs than usual, femora black, with a greenish reflection, the extreme tip of the four anterior femora, and all tibiæ yellow; the tip of the hind tibiæ, and all tarsi brownish-black; still the first joint of the fore tarsi yellow, the spur of the middle tibiæ very long; first joint of the middle tarsi beset with crooked bristles, rasp-like.

♀. . . . . Long. corp. 0.15. Long. al. 0.15.

Syn. *Psilopus caudatulus* Loew, Neue Beitr. VIII, 93, 12.

It resembles the *P. scobinator* so much, that the statement of the slight differences will be perfectly sufficient for its recognition; the hairs at the tip of the abdomen are much longer, more bristle-like, and when well preserved, are of the same length as the four last segments of the abdomen, whilst in *P. scobinator*, the two which are longest among them are but little longer than the last segment.

Hab. Missouri. (Schaum.) Illinois. (Le Baron.)

Observàtion.—The name which I have given to this species is intended to remind of *P. caudatus* Wied., which undoubtedly belongs to the same group; but, by its larger size, it seems to be different from the species known to me. In the *Neue Beiträge*, in consequence of a mistake, some incorrect statements have been made by me about *P. caudatulus.* Its resemblance with *P. scobinator* is so great that one would be very much inclined to take it for a mere variety of it, if the difference in the length of the hairs at the tip of the abdomen was not so considerable, and if the distinction of the other species of this group, otherwise agreeing perfectly in all characters, did not likewise rest on some single plastic character.

13. P. calcaratus Loew. ♂.—Parvus, nitidissimus, viridis vel ex viridi chalybeus, facie pilosâ, alis immaculatis, anteriore venæ longitudinalis quartæ ramulo arcuatim ducto, halteribus flavis.

♂. Abdomine fasciis nigris angustis ornato, femoribus nigris, viridi-micantibus, summo femorum anteriorum apice tibiisque omnibus flavis, tibiarum posticarum apice tarsisque omnibus ex fusco nigris, primo tamen tarsorum anticorum articulo flavo, calcare tibiarum intermediarum longissimo, primo tarsorum intermediorum articulo simplici.

♀. . . . .

Small, very shining, green or greenish-blue; face hairy; wings without picture, the anterior branch of the fourth longitudinal vein arched; halteres yellow.

♂. Abdomen with narrow black bands; femora black, with a greenish lustre, the extreme tip of the four anterior femora and all tibiæ yellow; the tip of the hind tibiæ and all tarsi brownish-black; still the first joint of the fore tarsi yellow; the spur of the middle tibiæ extremely long; the first joint of the middle tarsi plain.

♀. . . . . Long. corp. 0.15. Long. al. 0.15.

Syn. *Psilopus calcaratus* Loew, Neue Beitr. VIII, 93, 10.

I am unable to mention any difference from the male of the *P. scobinator*, except that the middle tarsi are somewhat longer, namely, as long as the tibiæ, and that their first joint upon the under side is not fringed rasp-like, with numerous, crooked bristles, but has only a few scattered straight bristles.

Hab. Carolina. (Zimmermann.)

14. P. inermis Loew. ♂.—Parvus, nitidissimus, viridis vel ex viridi chalybeus, facie pilosâ, alis immaculatis, anteriore venæ longitudinalis quartæ ramulo arcuatim ducto, halteribus flavis.

♂. Abdomine fasciis nigris angustis ornato et in apice pilis solito longioribus nullis vestito, femoribus nigris, viridi-micantibus, summo femorum anteriorum apice tibiisque omnibus flavis, apice tibiarum posticarum extremo tarsisque omnibus ex fusco nigris, tarsorum anteriorum basi tamen flavâ, calcare tibiarum intermediarum brevissimo, primo tarsorum intermediorum articulo simplici.

♀. . . . . . .

Small, very shining, green or bluish-green, face hairy; wings without picture, the anterior branch of the fourth longitudinal vein arched; halteres yellow.

♂. Abdomen with narrow black bands, at the tip without hairs longer than usual; femora black, with greenish lustre, the extreme tip of the four anterior femora and all tibiæ yellow, the extreme tip of the hind tibiæ and all tarsi brownish-black, still the basis of the fore and middle tarsi yellow; the spur of the middle tibiæ very short; the first joint of the middle tarsi plain.

♀. . . . . Long. corp. 0.15. Long. al. 0.15.

Syn. *Psilopus inermis* Loew, Neue Beitr. VIII, 93, 11.

This species is likewise most closely allied to the ♂ of *P. scobinator.* In the coloring there are no differences, except that in *P. inermis* the hind tibiæ are somewhat infuscated at the very extreme tip, while in the ♂ of *scobinator* the blackish-brown coloring is extended nearly over the whole of their last quarter, and that in *inermis* the first joint of the middle tarsi is brownish-yellow nearly to the middle. Whether these differences in the coloring are constant, further observations must show. The plastic differences, which secure the specific distinctness of *inermis* from the two previous species lies in the structure of the middle feet. Whilst in the latter that bristle, which is inserted near the tip of the tibiæ upon the inner side, forms an unusually long, diverging spur, and much exceeds in length the bristle inserted on the front side of the tip, in *P. inermis* the bristle inserted on the inner side is not only the much smaller one, but is also not diverging; the remaining bristles of the middle tibiæ are considerably longer than in *scobinator* and *calcaratus;* the first joint of the middle tarsi is plain, as in *calcaratus*, but has upon its under side a still smaller number of very short, straight bristles; the fore and middle tarsi are somewhat longer than in the two previous species, still this difference is but trifling.

Hab. Pennsylvania. (Osten-Sacken.)

II. Tegulæ with pale cilia.

A. *Antennæ entirely black.*

15. P. scintillans Loew. ♂ and ♀.—Totus nitidissimus, viridis vel ex viridi chalybeus, abdomine interdum ex aureo viridi, antennis nigris, coxis anticis pedibusque flavis.

♂. Alarum costâ breviter ciliatâ, hypopygii appendicibus atris.

♀. Alarum costâ non ciliatâ.

Very shining, green or bluish-green, abdomen sometimes golden-green; antennæ black; fore coxæ and all the feet yellow.

♂. Costa with short cilia; appendages of the hypopygium black.

♀. Costa not ciliated. Long. corp. 0.14—0.16. Long. al. 0.15—0.17.

Syn. *Psilopus scintillans* Loew, Neue Beitr. VIII, 94, 13.

Male. Very handsomely shining, green, the abdomen, excepting the two last segments, gilded. Proboscis dingy yellow, the small palpi black, with white hairs. Face without hairs, dusted with white. Antennæ entirely black, small; the second joint with short, minute bristles; the arista itself of only moderate length. Front with the usual black bristles, which have but a moderate length, otherwise bare. Bristles upon scutellum and thorax of moderate length; upon the latter there are only two bristles. The black hairs of the abdomen are very scattered, and the black bristles before its incisures are rather short. The small hypopygium is black; its external appendages are very narrow, black, and with black hairs. Fore coxæ pale-yellow, with scattered and rather short whitish hairs, and beset with several white bristles. Middle and hind coxæ black. Feet very long and slender, pale-yellow. Femora slender, upon the under side sparely fringed with short, minute, whitish hairs. Tibiæ likewise very slender, without bristles, with a very short black pubescence, which is diverging fringe-like on the middle tibiæ and is much closer upon their under side. Fore tarsi extremely slender, more than once and two-thirds the length of the tibiæ; their first joint alone somewhat longer than the tibiæ, brownish-yellow; the following joints brownish-black and of decreasing length. Middle tarsi likewise very slender, about once and a half the length of the tibiæ; their short black pubescence diverging, so that it appears fringe-like; their first joint brownish-yellow, at the extreme tip brownish-black; the following joints brownish-black and of decreasing length. Hind tarsi nearly as long as the tibiæ; first joint brownish-yellow, and but little longer than the following joints taken together; the latter brownish-black and of decreasing length. All the tarsi entirely without bristles. Halteres pale-yellow with a blackish peduncle; tegulæ blackish with whitish cilia. Wings on the anterior margin, from their basis to the tip of the second longitudinal vein, regularly ciliated with rather stout, minute, black hairs; the third longitudinal vein rather distinctly curved backwards at its end; the anterior branch of the fourth longitudinal vein diverges from it at a nearly right angle and turns then at a very rounded, somewhat obtuse angle towards the margin, which it reaches very near before the apex and not far from the tip of the third longitudinal vein; posterior transverse vein rather oblique and somewhat inflected.

Female. It resembles the male very much, still the pubescence and bristles of the body are shorter, also the anterior margin of the wing is not ciliated. The delicate, minute white hairs upon the under side of the femora are hardly perceptible. Middle tibiæ with a much shorter, not diverging pubescence, but with a few minute black bristles, which are not to be found in the ♂. Tarsi somewhat shorter, otherwise of a similar structure, still the middle tarsi only with a quite short, not diverging pubescence, and the first joint of the hind tarsi fully as long as the four following joints taken together. Tegulæ sometimes rather yellowish.

Hab. Middle States. (Osten-Sacken.)

B. *The two first joints of the antennæ pale.*

A. *Fore femora in both sexes, or at least in the male, without yellow thornlike bristles upon the under side.*

1. Abdomen not yellow at the basis.

16. P. pallens Wied. ♂ and ♀.—Ex viridi cinereus, opacus, proboscide, palpis, duobus primis antennarum articulis, ventre, coxis pedibusque flavis, coxis posterioribus fusco-maculatis.

♂. Tarsorum anticorum articulo quarto subdilatato, albido.

♀. Infero femorum anticorum latere setis validis flavis armato.

Greenish-gray, without lustre, halteres, palpi, the two first joints of the antennæ, the venter, the coxæ, and the feet yellow, the four posterior coxæ spotted with brown.

♂. The fourth joint of the fore tarsi slightly enlarged, whitish.

♀. Under side of the fore femora bearing stout yellow bristles. Long. corp. 0.23—0.26. Long. al. 0.22—0.24.

Syn. *Psilopus pallens* Wiedemann, Auss. Zweifl. II, 219, 11.
Psilopus albonotatus Loew, Neue Beitr. V, 4.
Psilopus pallens Loew, Neue Beitr. VIII, 97, 17.

Male. Everywhere closely covered with a grayish or whitish-gray dust, from below which the metallic bluish-green ground shines distinctly, although not strongly, through. Proboscis brown; palpi whitish-yellow. Face broad, without hairs, very closely covered with white dust. The two first joints of the antennæ yellowish, the second beset with very short minute black bristles; third antennal joint brown, rounded; arista proportionally short. Front with a close white, round the ocellar tubercle with brownish-gray, dust, without hairs, the usual black bristles upon it of medium length. The opaque thorax, dusted with grayish, has two longitudinal lines, distant from each other upon the middle, and two other incomplete longitudinal lines of a brown color, occupying the place of the lateral stripes. Bristles of the thorax proportionally short. Scutellum with two bristles. The abdomen, dusted with grayish and rather opaque, has upon the second segment a large blackish, triangular spot, with its point directed backwards; upon each of the following segments there is a similar spot, which is connected with the rather narrow black anterior margin of the segment, and the color of which is changing from a dusky-bronze into grayish-green. The structure of the hypopygium and of its appendages is nearly as in *P. albifrons* Meig.; the external appendages are hardly half so long as the inner ones and have the form of a small elliptical lamella; their color is brown, their pubescence near the basis more delicate, shorter and pale, at the tip coarser, longer, and black; the inner appendages form a brownish-yellow forceps, dark-brown at the tip. Coxæ and feet yellowish, still the middle and hind coxæ rather broadly infuscated. Fore coxæ beset only with a delicate, moderately long, yellowish-white pubescence, without stouter bristles. All femora slender, upon the under side very glabrous; the few pale hairs which are to be found there are extremely short, and therefore hardly perceptible. Pubescence of all the tibiæ very short, that of the middle tibiæ somewhat longer and more diverging. Fore tibiæ upon the upper side with a few slender minute bristles, one of which is inserted at their tip. Middle tibiæ generally infuscated upon the two last thirds of their upper side; upon their anterior side, not far from the basis, a more perceptible small black bristle is inserted; otherwise they are without bristles. Hind tibiæ with a few very small bristles at the tip, otherwise as good as without bristles. Fore tarsi slender, double the length of the tibiæ; their first joint somewhat longer than the tibia; the three following joints of nearly the same length; the fourth joint somewhat flattened from the sides, whitish; fifth joint only about half as long as the fourth, dark-brown. Middle tarsi once and a half the length of the tibiæ, slender; the first joint distinctly longer than the following taken together; the latter of a decreasing length, the last one infuscated. Hind tarsi somewhat shorter than the tibiæ, their first joint distinctly shorter than the second, the last one somewhat infuscated. Halteres yellowish; tegulæ with a narrow black border and yellowish-white cilia. Wings rather large, of an elliptical outline, tinged with brownish-gray; the third longitudinal vein is but little curved backwards at the end; the anterior branch of the fourth longitudinal vein, the origin of which lies nearer to the posterior transverse vein than to the margin of the wing, leaves this vein at an obtuse angle, and turns in a flat curve towards the margin, which it reaches a little before the apex and not far from the tip of the third longitudinal vein; the posterior transverse vein lies proportionally far away from the margin, is but moderately oblique and not inflected.

Female. It resembles the ♂ very much, but shows the following differences: The color of the dust upon front, thorax, scutellum and abdomen is more yellow-grayish. The blackish, triangular dorsal spots of the abdomen are indistinct. The fore coxæ have, besides the yellowish-white pubescence, on the inner and outer margin, as also at the tip, numerous yellow bristles. Feet shorter and of stouter structure than in the ♂. Upon the first half of the under side of the fore femora there are five diverging stout thorn-like bristles of yellow color. All the tibiæ are sparely beset with single black bristles of medium length. Tarsi distinctly shorter than in the ♂, from the third joint infuscated, the last joint dark brown, the second to fourth joints of the fore tarsi decreasing in length more rapidly than in the ♂. Wings somewhat smaller and less obtuse than those of the ♂; the neuration does not show any perceptible difference.

Hab. New York. (Osten-Sacken, who found it frequently in June and July in the buildings near the Bowling Green and the Battery, on walls and windows in the rooms.)

Observation 1.—The present species is not only an entirely European form, but also without the least doubt perfectly identical with *P. albonotatus*, which I have discovered at Rhodus and described in "*Neue Beitr.* V." The comparison of two ♂ of the latter with several ♂ of *P. pallens* shows, that there is no perceptible difference between them.

Observation 2.—At the Imperial Museum in Vienna there are two specimens of *P. pallens* marked "New Holland." The simultaneous existence of the species in North America and Europe might lead to believe in the possibility of its also occurring in New Holland. However, my reasons for doubting this at present are as follows: the pins bearing these specimens are easily distinguished from others, and among all the other *Dolichopodidæ* of the collection, there are only two specimens on similar pins, and both are also marked "New Holland." A most careful comparison of the latter specimens showed that they are *P. sipho* Say. This circumstance renders it very probable that there was a mistake in the statement of the *habitat.*

2. Abdomen at the basis yellow, not metallic.

a. Tarsi for the most part black.

17. P. variegatus LOEW. ♀.—Viridi, chalybeo et cupreo varius, modice nitens, proboscide, palpis, primis duobus antennarum articulis, abdominis basi, ventre pedibusque flavis, coxis intermediis cinereomaculatis, tarsis ex fusco nigris.

Green, steel-blue and copper colored, variegated, moderately shining; proboscis, palpi, the two first joints of the antennæ, the basis of the abdomen, the coxæ and feet yellow; middle coxæ spotted with gray; tarsi brownish-black. Long. corp. 0.21. Long. al. 0.20.

SYN. *Psilopus variegatus* LOEW, Neue Beitr. VIII, 95, 14.

Green, the most part of the upper side of the thorax and the anterior part of the single segments of the abdomen coppery-red, the front and scutellum blue. The lustre of the ground-color is moderated by a slight whitish dust. Face greenish-blue, closely dusted with white, reaching more downwards than usual; without hairs. Proboscis and palpi yellow. The two first antennal joints yellowish, the second with very short minute black bristles; the arista dorsal, moderately long. Front blue, slightly dusted with white, without hairs; its usual black bristles of a moderate length. The upper side of the thorax shows two longitudinal lines of a coppery-red color, which are separated by a broad green stripe; each of them coalesces with a large coppery-red lateral spot; the upper side of the thorax is very probably not so variegated in all specimens. The black bristles of the thorax of medium length. Scutellum blue with a green tip; the pair of bristles inserted near its tip is rather large, that nearer to the basis is more slender and much shorter. Pleuræ rather closely dusted with white; their hind margin colored with yellow. The first segment of the abdomen yellow, near the basis blackish, on the hind margin, excepting the middle, metallic-green and fringed with a row of long black bristles; the basal third of the second segment and on each side a lateral spot, yellow; otherwise, the abdomen is metallic-green, at the basis of the segments handsome coppery-red, altogether covered with a slight whitish dust. The pubescence of the first segment of the abdomen is whitish and delicate, upon the remaining segments it is coarser and black; the minute black bristles before the second and before the following segments differ but little from the remaining pubescence. Venter yellow, with a very scattered and short pubescence, which has near its basis a whitish, towards its end a black color. Fore coxæ yellow with a rather short whitish pubescence and with a few stout whitish-yellow bristles. Middle and hind coxæ likewise yellow, still the first with a gray spot, which covers the larger part of its outside. Femora yellow, upon the under side with a hardly distinct whitish pubescence; the foremost with a single black bristle inserted upon the outside not far from the basis. The middle tibiæ have a more distinct minute bristle upon the front side near the basis and a few at the tip, besides some small ones upon the hind side; the hind tibiæ have upon the front side, not far from the basis, also one stout bristle and some quite small, hardly perceptible ones upon the upper and under side. Fore tarsi about once and two-thirds the length of the tibiæ; their first joint alone of the same length as the tibiæ, brownish-yellow; the following joints brownish-black and of decreasing length, still the third but little shorter than the second. Middle tarsi once and a-half the length of the tibiæ, of the same coloring and structure, only the first joint proportionally somewhat shorter. Hind tarsi but little shorter than the tibiæ, brownish-black, at the basis more yellowish-brown, the first joint not quite as long as the second and third taken together. Halteres yellowish; tegulæ with a very narrow black border and whitish cilia. The third longitudinal vein of the wings distinctly curved backwards near its end; the anterior branch of the fourth longitudinal vein diverges at a rather acute angle and turns then at a very rounded right angle towards the margin, which it reaches somewhat before the apex near the tip of the third longitudinal vein; hind transverse vein strikingly oblique, not sinuated.

Hab. Florida. (Osten-Sacken.) Cuba. (Gundlach.)

Observation.—P. variegatus is very like the ♀ of *P. psittacinus.* The proportionally longer wings, the different position of the bristles of the scutellum, the much darker coloring of the tarsi and the proportionally somewhat lesser length of the first joint of the hind tarsi seem to prove its distinctness sufficiently.

b. **Tarsi but little infuscated towards the end.**

a. All the coxæ entirely yellow.

18. P. bicolor Loew. ♀.—Viridis, nitidissimus, proboscide, palpis, duobus primis antennarum articulis, abdominis basi et maculis lateralibus, ventre, coxis pedibusque flavis.

Green, very shining; proboscis, palpi, the two first joints of the antennæ, the basis of the abdomen and spots on its side, venter, coxæ and feet yellow. Long. corp. 0.13—0.14. Long. al. 0.13—0.14.

Syn. *Psilopus bicolor* Loew, Neue Beitr. VIII, 96, 15.

Green, very shining. Palpi and proboscis yellow. The glabrous face and the front bluish-green, the former rather closely dusted with white, the latter with the usual black bristles, which have but an insignificant length, otherwise without pubescence. The two first joints of the antennæ yellowish; the second with only extremely short minute black hairs. The black bristles of the thorax short. Scutellum with only two long black bristles. Pleuræ closely dusted with white, their hind margin yellow. First segment of the abdomen yellow, with a shining green hind margin; the second segment likewise yellow, with a very large metallic-green spot, which only leaves unoccupied the basal one-third, the anterior corner and the lateral margin; the two following segments shining green, with a yellow anterior corner and yellow lateral margin; the fifth segment only with a yellow lateral margin. Venter entirely yellow. The pubescence of the abdomen is scarce, delicate and short, upon its upper side black; the minute black bristles before the incisures are so short that they distinguish themselves but little from the remaining pubescence. All the coxæ and the very glabrous, long and slender feet pale yellowish. Fore coxæ with a short whitish pubescence and with a few hair-like whitish bristles. Under side of the fore femora with extremely short minute whitish hairs, under side of the middle and hind femora glabrous. Fore tibiæ entirely without bristles; middle and hind tibiæ with one short minute black bristle upon the outside, not far from the basis and with some similar minute bristles at the tip. The very slender fore tarsi over once and two-thirds the length of the tibiæ; their first joint a little longer than the tibia, the following joints of a decreasing length, the fifth joint infuscated. The slender middle tarsi nearly once and a-half the length of the tibiæ; their first joint distinctly shorter than the tibia; the following ones of decreasing length, the last one somewhat infuscated. Hind tarsi about three-fourths the length of the tibiæ; their first joint longer than the following taken together; these are of a decreasing length, somewhat infuscated, still only the last is really brown. The pubescence of all the feet is of a rather striking shortness; its color upon the under side of the tibiæ and tarsi is not black, although they take the appearance of this color in some reflected light. Halteres pale-yellowish; tegulæ with an exceedingly narrow black border and with yellowish-white cilia. The third longitudinal vein of the wings curved gently backwards at its tip; the anterior branch of the fourth longitudinal vein diverges from it under a rather acute angle and turns then at a rounded right angle towards the margin, which it reaches immediately before the extreme apex, near the tip of the third longitudinal vein; the hind transverse vein very oblique, little inflected.

Hab. Middle States. (Osten-Sacken.)

β. Middle coxæ gray with yellow tip.

19. P. psittacinus Loew. ♂ and ♀.—Aureo-viridis, modice nitens, proboscide, palpis, duobus primis antennarum articulis, abdominis basi, ventre, coxis anticis posticisque et pedibus flavis, coxis intermediis cinereis, in apice flavis.

♂. Alarum costâ concavâ, breviter ciliatâ.

♀. Alarum costâ nec concavâ, nec ciliatâ.

Golden-green, moderately shining, proboscis, palpi, the two first joints of the antennæ, the basis of the abdomen, the venter, the fore and hind coxæ, as also the feet, yellow; the middle coxæ gray with yellow tip.

♂. The anterior margin of the wings concave, with a fringe of short cilia.

♀. The anterior margin of the wings neither concave nor ciliated. Long. corp. 0.20—0.22. Long. al. 0.19—0.20.

Syn. *Psilopus psittacinus* Loew, Neue Beitr. VIII, 96, 16.

Male. Golden-green, moderately shining. Proboscis and palpi yellow. Face greenish-blue, closely dusted with yellowish-gray, reaching much downwards, without hairs. The two first joints of the antennæ yellowish, the second with very short minute black bristles. The arista dorsal, moderately long. Front blue or bluish-green, with a grayish-yellow or nearly whitish dust, without hairs, its usual black bristles of a very moderate length. Thorax, scutellum and abdomen with a slight yellowish dust, which moderates the lustre of these parts. The black bristles of the thorax of moderate length. The scutellum has only the pair of bristles at the tip, which is of a considerable length; immediately near each bristle of this pair a much shorter black hair is inserted towards the outside. Pleuræ black with a green reflection and with a grayish-white dust; their hind margin gray or at least only in part yellowish. Abdomen green, towards its end generally somewhat gilded; the first segment yellowish, at its basis blackish, on the hind margin metallic-green; on the second segment the anterior margin and corner, sometimes also the lateral margin, yellow; the third segment has generally, on the anterior part of the lateral margin, an elongated yellowish spot. The scattered pubescence of the abdomen is rather delicate and long; upon the upper side it is black, whitish only upon the first segment; the pubescence of the venter is whitish near its basis, but becomes gradually darker towards the end. The black bristles before the incisures of the abdomen of a very moderate length. The external appendages of the hypopygium small and very narrow, brownish-yellow. Fore and hind coxæ pale yellow, the former with a shorter and more delicate whitish pubescence and with a few light-yellowish bristles; middle coxæ gray with pale-yellowish tip. Feet yellowish. Femora slender, upon the under side sparely fringed with exceedingly short, minute whitish hairs; besides, upon the second half of the under side of the middle femora there is a sparse row of minute black hairs. Tibiæ slender and long; the usual black pubescence of the fore and hind tibiæ is very short and appressed, that of the middle tibiæ somewhat longer and more erect, therefore almost fringe-like. The fore tibiæ, with the only exception of a rather small minute black bristle, inserted upon their outside, near the basis, are entirely without bristles. The middle tibiæ bear no bristles whatever, distinguished from the other pubescence. Hind tibiæ upon the front side, not far from the basis, with a rather apparent little bristle, whilst those upon the upper and under side are less numerous, extremely small and therefore more difficult to perceive. Fore tarsi slender, nearly twice as long as the tibiæ; their first joint for itself alone somewhat longer than the tibia, the following ones of decreasing length, the last one brown. Middle tarsi slender, about once and a half the length of the tibiæ;

the first joint distinctly shorter than the tibia, upon its front side somewhat sparsely ciliated with oblique minute black hairs; the following joints only with the usual short pubescence and of decreasing length, the last one dark brown. The length of the hind tarsi somewhat exceeds three-fourths of the tibiæ; their first joint is only somewhat longer than the following taken together; these are of decreasing length, somewhat infuscated, still only the last one dark brown. Halteres light yellow; tegulæ with extremely narrow black margin and with yellowish-white cilia. Wings with brown veins; the anterior margin is gently sinuated upon its larger second half, and forms before the tip of the second longitudinal vein a projecting angle, so that the whole wing acquires a quite unusual axe-like shape; the whole anterior margin, as far as that angle, is delicately and equally ciliated; the third longitudinal vein, near its end, is turned back very abruptly and unusually far; the anterior branch of the fourth longitudinal vein diverges from it under a rather acute angle and turns then in a curve towards the margin, which it reaches not far from the tip of the third longitudinal vein; posterior transverse vein rather remarkably oblique, gently sinuated in the shape of an S.

Female. It resembles the male very closely. Besides the lesser length of the bristles on the whole body, and besides the somewhat lesser length of the feet, which are of the same color as in the ♂, there are only the following differences: the whole hind margin of the pleuræ is colored with yellow. The middle tibiæ are without the longer and erect pubescence of the ♂, but their pubescence is short and appressed as on the other tibiæ; there are, however, upon the front side near the basis one, and at the tip of the tibiæ a few more distinct minute black bristles, besides some smaller ones upon the hind side. The anterior margin of the wings is neither concave nor ciliated, the wings therefore of the usual form; the third longitudinal vein, near its end, is much less suddenly and much less strongly curved backwards; the course of the anterior branch of the fourth longitudinal vein is somewhat less in a curve, and the sinuosity of the hind transverse vein not so strong.

Hab. Florida. (Osten-Sacken.)

B. *Fore femora upon the under side with thornlike bristles in both sexes.*

1. All the coxæ entirely yellow.

20. P. tener Loew. ♂ and ♀.—Laete viridis, proboscide, palpis, primis duobus antennarum articulis, pleurarum margine postico, abdominis basi, coxis pedibusque flavis, ciliis tegularum albicantibus, alarum venâ transversâ posteriore valde obliquâ.

♂. Femora antica setulis subtribus armata; appendices hypopygii majusculæ flavæ.

♀. Femora antica setis quatuor validis armata.

Light green, proboscis, palpi, the two first joints of the antennæ, the hind margin of the pleuræ, the basis of the abdomen, the coxæ and feet yellow; cilia of the tegulæ whitish; hind transverse vein of the wings very oblique.

♂. Fore femora generally with three minute bristles; the rather large appendages of the hypopygium yellow.

♀. Fore femora with four stout bristles. Long. corp. 0.16—0.17. Long. al. 0.22.

Syn. *Psilopus tener* Loew, Berl. Ent. Zeitschr. VI, 217, 71.

Light metallic-green, rather shining. Proboscis and palpi yellow, the latter beset with a few minute bristles, which have in the ♂ a whitish, in the ♀ a black cólor. The glabrous face, covered with white dust, is very broad, particularly upon its upper part, which is very convex. Antennæ small, the two first joints yellow, the second beset with a few short, minute black hairs upon the upper side; upon the under side with a few short, minute white hairs; the very small third joint is generally blackish, still it has sometimes a much lighter coloring. The front is generally sky-blue, and, besides the usual black bristles, without pubescence. Upper side of the thorax sometimes more blue than green, rather distinctly dusted and beset with but a moderate number of black bristles. Pleuræ, in consequence of a close white dust, grayish-green. The scutellum, which has two bristles, is sometimes green, sometimes purplish-blue. Abdomen shining light-green, sometimes rather golden-green; its basis is in the ♀ always, in the male generally, colored with yellow; the black bristles before the hind margin of the single segments are proportionally short. Hypopygium blackish-brown and dusted with white; its appendages are pale yellow; the external ones are narrow lamellæ and are fringed with a blackish pubescence, which is somewhat longer at their tip; the inner ones are styliform, distinctly longer than the outer ones and fringed upon their upper side with some few minute light hairs; the stile-like central organ is as long as the inner appendages and is smoothly curved downwards. The coxæ and the long, very slender and very glabrous feet are yellowish. The fore coxæ of the ♂ have a proportionally long, rather close and delicate whitish pubescence; in the ♀ there are, instead of the longer hairs, bristles of a white-yellowish coloring. The fore femora of the ♂ have upon the under side near the basis, three thin yellowish bristles of decreasing length; in the ♀ there are in their stead four stout yellowish bristles. The hind femora of the ♂ have upon the upper side near the basis a few long and very delicate white hairs, which are not present in the ♀. The plain and slender fore tarsi are in both sexes much longer than the tibiæ; they are still much longer in the ♂ than in the ♀; the first joint of all tarsi is very elongated, particularly in the ♂; on the fore tarsi it is about twice as long as the following joints taken together, on the middle tarsi about three times as long, besides they are distinguished by their slenderness, and apparently complete glabrousness. The hind tarsi in both sexes are nearly as long as the tibiæ, their first joint in the ♂ somewhat longer than the following joints taken together, but in the ♀ somewhat shorter. Tegulæ on the margin with only a single quite small black dot; their cilia whitish. Wings grayish hyaline, long and narrow, towards the basis still more narrowed, particularly in the ♂; their anterior veins are yellow, the posterior ones more infuscated; the anterior branch of the third longitudinal vein is very long, rather flat and but little curved; the posterior transverse vein is far remote from the margin and has a very oblique position. The ♂ possesses, as a particular distinctive mark, upon the under side of the basis of the wing, a crooked, black, rather stout thorn, inserted near the anterior margin.

Hab. Pennsylvania. (Coll. Winth.)

Observation.—The *P. delicatus* of Mr. Walker, who described a ♀, has an entirely green abdomen, can therefore not be *tener*, as the basis of the abdomen of its ♀ is always colored with yellow.

2. Middle and hind coxæ blackish.

21. P. filipes Loew. ♂.—Gracilis, longipes, nitidus, capite, thorace scutelloque chalybeis, abdomine viridi, proboscide, duobus primis antennarum articulis, coxis pedibusque flavis, femorum intermediorum basi nigrâ, tibiis intermediis tarsisque omnibus fuscis.

Slender, long-legged, shining, head, thorax and scutellum steel-blue, abdomen green; proboscis, the two first joints of the antennæ, coxæ and feet yellow, still the basis of the middle femora blackish; middle tibiæ and all tarsi brown. Long. corp. 0.26. Long. al. 0.26.

Syn. *Psilopus filipes* Loew, Neue Beitr. VIII, 99, 18.

Of slender shape and very long-legged, shining. Head purplish-blue; proboscis yellow, palpi brown, both beset with minute light hairs. Face without hairs, very broad, covered with dense yellowish dust; its upper part is quite unusually convex. The two first joints of the antennæ yellow, the second fringed with short minute white-yellowish hairs; the small third joint rounded, brownish-black; arista dorsal, proportionally of insignificant length. Front without hairs, with grayish-yellow dust, which does not cover the shining purplish ground-color upon the middle; the usual black bristles of moderate length. Thorax and scutellum shining purplish-blue, with a yellowish dust, which does not cover the lustre of the ground-color. The black bristles of the thorax rather long. The scutellum has but two bristles, still near the lateral corners, on its margin, some long hairs are inserted. Abdomen shining green with a very slight yellowish dust; if the light falls upon it from behind, narrow black fasciæ on the anterior margins of the segments become apparent, which are invisible, if the light falls from the opposite side. The delicate pubescence of the abdomen is whitish; upon the upper side of the two first segments, on the lateral margin and on the venter very long, otherwise short; black bristles of moderate length are only to be found before the hind margin of the third and of the following segments. Hypopygium blackish-green with white dust; the external appendages styliform, but little shorter than the inner ones, their basal half light-brownish and hairy, their apical half white and glabrous, their extreme tip black; the inner appendages form a brownish-black forceps. Fore coxæ yellowish with a yellowish-white pubescence, which has on their outside a rather unusual length; there are no bristles upon it. Middle and hind coxæ blackish. Feet yellow, very long and beset with but exceedingly short, for the greatest part minute light-colored hairs. All femora slender; the foremost ones tapering towards the end, the middle ones from the basis as far as the first third, black; fore femora upon the first half of the under side with six perpendicular, erect, long, yellow, spine-like bristles; hind femora upon the first third of the hind side fringed with long, but very delicate whitish hairs. All tibiæ very long and slender, fore and middle tibiæ without bristles; the latter, excepting the basis, are rather dark-brown, very elongated, and gradually tapering towards their end. Hind tibiæ with rather numerous, very short black bristles upon the under side. Fore tarsi brown, very slender, over once and two-thirds the length of the tibiæ; their first joint is distinctly longer than the tibia; the following joints are of a decreasing length, and the last one somewhat flattened. Middle tarsi much longer than the fore tarsi, but not quite as long as the middle tibiæ, filiform; the first joint brownish-black, about twice and a half the length of the following taken together, with hairs of such shortness that it appears entirely bare unless very closely examined; the four following joints light-brownish, still the extreme tip of the second and of the almost equally long third joints brownish-black; the two last joints are again of rather equal length, but, taken together, are only about as long as the second joint; the second and third joints with a distinct black pubescence, the fourth joint with a still longer pubescence; the small ungues are sharp and the pulvilli very short. Hind tarsi brownish-black with yellowish basis, not quite as long as the tibiæ; their first joint somewhat longer than the four following taken together; the joints from the second to the fourth of rapidly decreasing length; the fifth joint about as long as the fourth. Halteres pale-yellowish; tegulæ with whitish cilia. Wings very long and narrow, with brown veins; the third longitudinal vein is only slightly turned backwards near its end; the anterior branch has its origin in the middle between the hind transverse vein and the margin; it diverges from this vein at an obtuse angle and turns in a very flat curve towards the margin, which it reaches somewhat before the extreme apex and not far from the tip of the third longitudinal vein; the hind transverse vein is unusually distant from the margin, has a rather oblique position and is not distinctly inflected.

Hab. Middle States. (Osten-Sacken.)

APPENDIX

SPECIES DESCRIBED BY PREVIOUS AUTHORS AND NOT CONTAINED IN THE PRESENT MONOGRAPHS.

Fabricius, Systema Entomologiæ.

Page 783. **Musca longicornis.**

Antennis setariis, pilosis, æneo-nitens, pedibus nigris.

Hab. America.

Parva, statura M. angulatæ.[1] Antennæ nigræ, pilosæ setaque unica longitudine fere corporis. Corpus viridi æneum, nitidum, pedibus solis nigris. Alæ hyalinæ. Cauda uncinata.

Fabricius, Entomologia Systematica, Vol. IV.

Page 341. **Musca longicornis.**

Antennis setariis elongatis pilosa æneo-nitens, abdomine obscuriore.

Hab. Americæ insulis.

Statura parva M. ungulatæ. Antennæ elongatæ nigræ, pilosæ setaque unica longitudine fere corporis. Corpus viridi æneum, nitidum, pedibus solis nigris. Cauda uncinata.

Say, Journ. Acad. Nat. Sc. Philad. Vol. III.

Page 85. **Dolichopus unifasciatus.**

Bluish-green; a white band at the base of the abdomen.

Hab. Pennsylvania.

Body bluish-green, polished, slender; antennæ, palpi and pro-

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[1] Misprint for *ungulatæ.*

boscis whitish; scutellum blue; wings immaculate; feet whitish; tergum, first segment and half of the second whitish, posterior half of the second segment and third segment much tinged with blue, remaining segments green.

Length—one-fourth of an inch.

Central nervure of the wing furcate, the exterior branch widely angulated and terminating near the tip of the preceding nervure, which is curved very considerably inwards, towards its tip.

Page 85. **Dolichopus obscurus.**

Blackish-brassy; wings dusky; feet pale

Hab. Pennsylvania.

Head dark silvery; antennæ black-brown; mouth blackish; thorax and scutellum dark-brassy; wings dusky; feet white, a little dusky on the tarsi; poisers white; tergum rather darker than the thorax.

Length—less than three-twentieths of an inch.

The central nervure of the wing is nearly rectilinear, being hardly perceptibly reflected.

Page 86. **Dolichopus femoratus.**

Green; tibiæ and tarsi whitish.

Hab. Pennsylvania.

Body brilliant green, with bluish reflections; front pruinose; antennæ blackish; proboscis yellowish; wings hyaline; scutellum blue; thighs green and excepting the posterior ones, whitish at tip, tibiæ white, tarsi dusky; tergum, ultimate joints cupreous at their bases.

Length—three-twentieths of an inch.

The brilliancy and shade of green in this insect are similar to *D. sipho;* when living, and in the sun's rays, it resembles burnished gold, nervures nearly as in *sipho.*

Say, Journ. Acad. Nat. Sc. Philad. Vol. VI.

Page 168. **Psilopus femoratus.**

This brilliant species varies in the color of its thighs, which in my description are stated to be green; a specimen taken in Indiana has whitish thighs.

Page 168. **Chrysotus nubilus.**

Blackish; feet dull honey-yellow.

Hab. Indiana.

Body blackish; head dull plumbeous; thorax cinereous, with three brown lines; wings immaculate; poisers white; feet dark honey-yellow; thighs black at base and above.

Length—rather over one-tenth of an inch.

Page 168. **Chrysotus concinnarius.**

Green-brassy; tergum blue towards the tip.

Hab. Mexico.

Head violaceous, with a cinereous reflection; palpi with a cinereous reflection; antennæ black; thorax green with a gray olivaceous reflection; wings hyaline, obsoletely tinged with yellowish on the costal margin; poisers white; tergum with a gray reflection, brassy-green at base, and violaceous towards the tip; thighs green; tibiæ whitish.

Length—one-fourth of an inch.

Page 169. **Chrysotus abdominalis.**

Green, polished; feet white.

Hab. Indiana.

Body bright green, brilliant; hypostoma purple; antennæ yellow; thorax immaculate; poisers yellow; tergum, first segment at base with an obsolete yellowish line; feet white; venter white, at tip blackish purple.

Length—♂ one-tenth of an inch.

Page 169. **Medeterus lateralis.**

Tergum pale, with a lateral series of polished spots.

Hab. Indiana.

Head silvery; proboscis et antennæ yellowish, seta of the latter with the first joint very short; eyes (when recent) green polished, with a cupreous reflection; thorax green, somewhat pruinose, with a dorsal rather compound vitta; wings hyaline; poisers whitish; tergum dull yellowish, with a series of brassy spots on each side, posterior two largest; feet and venter whitish.

Length—nearly three-twentieths of an inch.

The dorsal vitta is impressed behind.

Page 170. **Medeterus punctipennis.**

Thorax variegated; wings with brown spots.

Hab. Mexico.

Thorax olive-brown, trilineate; middle line slender, dull yellowish, obsoletely zigzag; outer lines cinereous with black points; scutel brown, cinereous in the middle; wings hyaline, with many irregular fuscous spots, hardly to be traced into four bands; poisers yellow; tergum cupreous, posterior margins of the segments blackish; feet white; tarsi blackish.

Length—nearly one-fifth of an inch.

Page 170. **Dolichopus abdominalis.**

Green, abdomen rufous.

Hab. Indiana.

Head silvery; antennæ, first and second joints black, third ——; thorax polished green; wings hyaline; abdomen, excepting the terminal joint, rufous; halteres white; pleuræ and pectus blackish, pruinose; feet white; tarsi dusky.

Length—less than three-twentieths of an inch.

Wiedemann, Aussereuropäische Zweyflüglige Insecten, Vol. II.

Page 219. **No. 12. Psilopus macula.**

Viridaureus; antennis nigris, pedibus flavis; alis maculâ magnâ fuscâ.

Grüngolden, mit schwarzen Fühlern, gelben Beinen und einem grossen schwärzlich-braunen Flügelflecke.

Länge 3 Linien ♀. Von der Krabbeninsel in Westindien.

Untergesicht an den Fühlern schön stahlblau, weiter unten grüngolden, überall aber in gewisser Richtung fast silberweiss schimmernd. Stirn grüngolden, in's Stahlblaue fallend. Rückenschild ebenso, ganz vorn wenig weiss-schimmernd. Brustseiten ebenso, doch überall stark weiss-schimmernd. Hinterleib grüngolden, an den Einschnitten schwarz, in gewisser Richtung auch wohl kupferröthlich. Beine gelb; hinterste Schienen und Füsse allmählig braun. Flügel wasserklar; der Fleck liegt längs der Rippe und nimmt von ihr selbst bis Zwei drittel der Flügelbreite ein, er liegt von Wurzel und Spitze gleichweit entfernt, nimmt etwa die Zwei mittlern Viertel der Flügel ein, und hat einen gerundeten Innenrand. (In Hornbeck's Sammlung zu Kopenhagen.)

(*Translation.*)—Golden green, with black antennæ, yellow feet and a large brownish-black spot on the wings; length three lines, ♀. From the Crab Islands (West Indies).

Face bright steel-blue near the antennæ, golden-green farther below, everywhere with a silvery reflection in a certain light. Front golden-green, with a bluish reflection; thorax likewise, but with a silvery reflection anteriorly; pleuræ of the same color, altogether with a whitish reflection. Abdomen golden green, black at the incisures, in a certain light reddish-coppery. Feet yellow; hind tibiæ and feet gradually infuscated. Wings hyaline; the dark spot is along the costa and extends to about two-thirds of the breadth of the wing; it is equally distant from the base and the tip, and occupies about two-fourths of the length of the wing in the middle; its inner border is rounded. (Hornbeck's Collection in Copenhagen.)

Page 219. **No. 13. Psilopus Sayi.**

Æneus; antennis, abdominis basi, incisuris pedibusque flavis.

Erzgrün, mit gelben Fühlern, Hinterleibswurzel, Einschnitten und Beinen. Länge 2⅔ Linien ♂. Aus Pennsylvanien.

Dolichopus unifasciatus Say, Journ. Acad. Philad. III, 85, 2.

Fühlerwurzel, aber auch wahrscheinlich das verloren gegangene Endglied, gelb. Untergesicht lebhaft erzgrün, unten wenig weissschimmernd; Stirn smaragdgrün, mit Metallglanz. Rückenschild in's Grüngoldene übergehend; die grüngoldenen Brustseiten weiss bereift. Erster Hinterleibsabschnitt überall, zweiter an der Wurzel, folgende an den Einschnitten gelb; die Hauptfarbe des Hinterleibes ist an der Wurzel smaragdgrünlich erzfarben, was an der Spitze ins Grüngoldene übergeht. Flügel sehr licht gelblich, mit gelben Adern. Beine gelb; vorderste Füsse überall, hintere nur an der Spitze schwärzlich-braun. (Im Philadelphischen Museum.)

(*Translation.*)—Bronze-green, with yellow antennæ, basis of the abdomen, incisures and feet; length two and two-thirds of lines, ♂. Pennsylvania.

Syn. *D. unifasciatus* Say, Journ. Ac. Phil. III, 85, 2.

Basis of antennæ and probably also the last joint (which is broken) yellow. Face bright bronze-green, with a slight whitish reflection below. Front emerald-green, with metallic reflection. Thorax verging into golden-green; the golden-green pleuræ whitish-pruinose. First abdominal segment yellow, the root of the second and the incisures of the following, also

yellow. The principal color of the abdomen is bronze emerald-greenish towards the base, changing into golden-green towards the tip. Wings very light yellowish, with yellow veins. Feet yellow, fore tarsi altogether blackish-brown, posterior ones only at the tip. (Museum of Philadelphia.)

Page 220. **No. 14. Psilopus longicornis** FABR.

Æneus; abdomine incisuris atris, alis limpidis.

Erzgrün, mit tief schwarzen Hinterleibseinschnitten und wasserklaren Flügeln. Länge $2\frac{2}{3}$ Linien. Aus Westindien.

Untergesicht erzgrün, kaum am untern Theile in gewisser Richtung weisslich schimmernd. Stirn erzgrün. Rückenschild und Hinterleib grüngolden, dieser an der Wurzel der Abschnitte tief schwarz. Flügel ungefärbt; Schwinger gelb. Beine schwarz an den Schenkeln fast metallglänzend an den vordersten Schienen lehmgelb. (In der Fabricius, schen Sammlung.)

(*Translation.*)—Bronze-green; abdomen with deep black incisures; wings hyaline; length, two and two-thirds of lines. West Indies.

Face bronze-green, with a slight whitish lustre on its lower part. Front bronze-green. Thorax and abdomen golden-green; the latter deep black at the root of the segments. Wings hyaline; halteres yellow. Feet black, almost with a metallic lustre on the femora; fore tibiæ luteous yellow. (Fabricius's collection.)

Page 224. **No. 23. Psilopus caudatus.**

Thorace æneo-viridi, abdomine viridaureo; incisuris atris, tibiis flavis.

Mit erzgrünem Rückenschilde und grüngoldenem, schwarz eingeschnittenem Hinterleibe und gelben Schienen.

Länge 2 bis $2\frac{1}{4}$ Linien. Von Savannah.

Dem *P. longicornis* verwandt. Fühler schwarz; Untergesicht erzgrün, silberweisslich schimmernd; stirn grüngolden, am Weibchen mehr als am Männchen. Rückenschild des Männchens hinten in's Stahlblaue übergehend, am Weibchen durchgehends grüngolden. Brustseiten silberweisslich, Hinterleib grüngolden, mit an der Wurzel tief schwarzen Abschnitten. After des Männchens mit sehr langen Haaren besetzt. Flügel wasserklar; Schwinger gelblich; Schenkel des Männchens erzgrün: vordere mit ledergelber Spitze, Schienen sämmtlich ledergelb. Füsse schwarz. Am Weibchen sind auch die Schenkel gelb. (In Westermann's Sammlung.)

(*Translation.*)—Thorax bronze-green; abdomen golden-green, with black incisures; tibiæ yellow; length from two to two and one-fourth lines. (Savannah.)

Related to *P. longicornis*. Antennæ black. Face bronze-green, with a silvery-white reflection; front golden-green, more so in the ♀ than in the ♂. Thorax of ♂ more steel-blue posteriorly; of the ♀ altogether golden-green. Pleuræ silvery-white. Abdomen golden-green, with the segments deep-black at the basis. Hypopygium beset with black hair. Wings hyaline; halteres yellowish. Femora of the male bronze-green; the foremost with the tip yellowish; all the tibiæ leather-yellow. Tarsi black. The femora of the ♀ also yellow. (Westermann's collection.)

Page 224. **No. 24. Psilopus virgo.**

Æneo-viridis; pedibus læte flavis.

Erzgrün, mit schön gelben Beinen.

Länge 2 Linien, ♀. Von New York.

Fühler schwarz. Untergesicht grün, mit silberweissem Schimmer. Mittelleib schön erzgrün. Hinterleib grüngolden. Flügel ungefärbt, Adern braun; Spitzenquerader keinen winkeligen Bogen bildend. Schwinger und Beine lebhaft gelb, in's Rostgelbe fallend. Hinterste Füsse schwärzlichbraun. (In meiner Sammlung.)

(*Translation.*)—Golden-green with handsomely yellow feet; length two lines, ♀. (New York.)

Antennæ black. Face green, with a silvery-white reflection. Thorax handsome green. Abdomen golden-green. Wings not pictured; veins brown; upper branch of the fourth longitudinal vein not forming an angular curve. Halteres and feet bright-yellow, somewhat reddish-yellow. Hind tarsi blackish-brown. (In my own collection.)

Page 226. **No. 28. Psilopus femoratus.**

Æneo-viridis, antennis nigellis; pedibus flavis, femoribus basi virentibus; alis limpidis.

Lebhaft erzgrün, mit schwärzlichen Fühlern, gelben Beinen, an der Wurzel grünlichen Schenkeln und wasserklaren Flügeln. Länge 1½ Linien. Aus Pennsylvanien.

Auch diese kleine Art zieht der Farbe nach stark in's Grüngoldene, zuweilen an Stirn und Rückenschild in's Bläuliche. Untergesicht und Brustseiten weisschimmernd oder bereift. Rüssel gelblich. Flügel ohne alle Zeichnung. Beine bleich gelb.

Schenkel grünlich, die vordern mit gelber Spitze. (In meiner Sammlung.)

(*Translation.*)—Brilliant bronze-green, with blackish antennæ, yellow feet, femora greenish at the basis, and hyaline wings. Length one and one-half lines. (Pennsylvania.)

The color of this small species also approaches the golden-green; front and thorax are sometimes bluish. Face and pleuræ have a white reflection or are pruinose. Proboscis yellowish. Wings not pictured. Feet pale-yellow. Femora greenish, the anterior ones with yellow tip. (In my own collection.)

Page 227. **No. 30. Psilopus mundus.**

Omnino chalybeus, venâ apicali in angulum obtusum flexâ.

Ueberall stahlblau, mit stumpfwinkelig gebogener Spitzenquerader. Länge 1½ Linien. Von Savannah.

Fühler schwarz; Untergesicht und Stirn satt stahlblau, der unterste Theil jenes nur sehr wenig weiss-schimmernd. Mittel- und Hinterleib satt stahlblau, an den Seiten hin und wieder grünlich, doch so, dass ich kaum glaube, dass es ganz grüne Abänderungen gebe. Flügel ungefärbt. Die Spitzenquerader bildet keinen so gleichförmig gekrümmten Bogen, wie bei *P. virgo*, sondern macht einen stumpfen Winkel. Schwinger gelb. Beine schwarz, an den Schenkeln stahlbläulich. (In meiner Sammlung.)

(*Translation.*)—Altogether steel-blue, with the anterior branch of the fourth longitudinal vein angularly curved. Length one and one-half lines. (Savannah.)

Antennæ black; face and front saturate steel-blue; the lower part of the former with only very little white reflection. Thorax and abdomen saturate steel-blue, in some places on the sides greenish, still so as to make me doubt whether there are entirely green varieties. Wings not pictured. The branch of the fourth vein is not regularly arched as in *P. virgo*, but forms an obtuse angle. Halteres yellow. Feet black, femora steel-blue. (My own collection.)

Page 232. **No. 6. Dolichopus obscurus** Say.

Æneo nigellus; capite niveo-micante; alis infumatis, pedibus flavis.

Erzgrünlich-schwarz, mit schneeweiss schimmerndem Kopfe, rauchgraulichen Flügeln und gelben Beinen. Länge 1½ Linien, ♀. Aus Pennsylvanien.

Fühler tief schwarz; Untergesicht und Stirn schwarz, beide

schneeweiss schimmernd. Rückenschild aus dem Schwärzlichen in's Grüne und röthlich stahlblaue spielend; Brustseiten weissbereift. Hinterleib metallisch schwärzlich, in's düster grünliche ziehend. Flügel satt rauchgrau; Schwinger und Beine gelb (Im Philadelphischen Museum.)

(*Translation.*)—Blackish bronze-green; head with a snow-white reflection; wings smoky-gray; feet yellow. Length one and one-half lines, ♀. (Pennsylvania.)

Antennæ deep-black; face and front black, both with a silvery-white reflection. Thorax changing from the blackish into green and reddish steel-blue; pleuræ pruinose with white. Abdomen metallic blackish, with a dusky greenish reflection. Wings saturate smoky-gray; halteres and feet yellow. (Museum of Philadelphia.)

Macquart, Diptères, Suites à Buffon, Vol. I.

Page 450. **No. 6. Psilopus radians.**

Long $2\frac{1}{2}$ lig. D'un vert ou d'un bleu violet, très brillant. Antennes noires; deuxième article garni de soies allongées, rayonnant à l'entour; style fort allongé. Bord des segmens de l'abdomen noir; organe copulateur peu épais. Pieds noirs; jambes antérieures et intermédiaires jaunâtres. Bord extérieur des ailes un peu brunâtre vers l'extrémité. De l'Amérique septentrionale. (Cabinet de M. Percheron.)

(*Translation.*)—Length two and one-half lines. Purplish-green or blue, very brilliant. Antennæ black; second joint fringed with elongated, radiating bristles; arista very long. Borders of abdominal segments black; genital organs not very stout. Feet black; fore and middle tibiæ yellowish. Anterior margin of the wing somewhat brownish towards the tip. North America. (Mr. Percheron's collection.)

Macquart, Diptères exotiques, Vol. II.

Page 119. **No. 11. Psilopus sipho.**

Læte æneus. Alis abbreviato-bifasciatis. Antennis nigris. Pedibus flavis; femoribus nigris ♂; tibiis posticis nigris ♂ (Tab. 21, fig. 1.) Wiedemann a décrit cette espèce comme ayant les pieds jaunes dans les deux sexes. Suivant nos observations sur un assez grand nombre d'individus, les femelles seules ont les pieds de cette couleur, à l'exception des tarses noirs; les mâles ont les cuisses noires, ainsi que les jambes postérieures.

Cette espéce est commune et répandue dans une grande partie de l'Amérique. Nous en avons vu des individus de la Pensylvanie, de Cuba, de la Guyane et des différentes parties du Brésil.

(*Translation.*)—Bright bronze-green. Wings with two abbreviated fasciæ. Antennæ black. Feet yellow. Femora black (♂); hind tibiæ black (♂). (Tab. XXI, fig. 1.)

Wiedemann described this species as having yellow feet in both sexes. According to my observations on a considerable number of specimens, the females alone have the feet of this color, with the exception of the black tarsi; the males have black femora and hind tibiæ.

This species is common in a considerable part of America. We have specimens from Pennsylvania, Cuba, Guyana, and from different parts of Brazil.

Page 121. **No. 18. Psilopus radians.**

Læte-æneus. Antennarum articulo secundo setis elongatis radiatis; stylo longissimo.

Long. 2½ l. ♂.

D'un vert ou d'un bleu violet très brilliant. Antennes noires; deuxième article garni de soies allongées, rayonnant à l'entour; style fort allongé. Bord des segments de l'abdomen noirs; organe copulateur peu épais. Pieds noirs, jambes postérieurs et intermédiaires jaunâtres. Bord extérieur des ailes un peu brunâtre vers l'extrémité.

De l'Amérique septentrionale. (Cabinet de M. Percheron à Paris.)

(*Translation.*)—Bright bronze-green. Second joint of the antennæ with elongated, radiating bristles; arista very long. Length two and one-half lines, ♂.

Purplish-green or blue, very brilliant. Antennæ black. Second joint fringed with elongated, radiating bristles. Style very long. Margin of the abdominal segments black. Hypopygium not stout; feet black; intermediate and hind tibiæ yellowish. Anterior margin of the wings somewhat brownish towards the tip.

North America. (Collection of M. Percheron in Paris.)

Macquart, Diptères exotiques, Suppl. IV.

Page 124. **No. 2. Chrysotus viridifemora.**

Viridi aureus. Antennis nigris. Pedibus rufis, femoribus viridibus. (Tab. 12. fig. 3.)

Long. une l. ♀.

Face et front verts, à duvet blanc. Antennes et style noirs. Thorax et abdomen d'un vert doré. Cuisses d'un vert brillant, à genoux jaunes; jambes fauves; tarses d'un jaune brunâtre; posterieurs bruns, à premier article jaune. Ailes claires.

De l'Amérique septentrionale. (Collection des M. Hoffmeister de Nordhausen.)

(*Translation.*)—Golden-green. Antennæ black. Feet rufous, femora green. (Tab. XII, fig. 3.) Length one line, ♀.

Face and front green, with white down. Antennæ and arista black. Thorax and abdomen golden-green. Femora brilliant-green; knees yellow; tibiæ fulvous; tarsi brownish-yellow; the hind ones brown, with the first joint yellow. Wings hyaline.

North America. (Collection of Mr. Hoffmeister in Nordhausen.)

Page 128. **No. 5. Dolichopus heteroneurus.**

Æneo-viridis. Thorace vittis violaceis. Pedibus flavis. Alis cellulâ posticâ primâ subclausâ. (Tab. 12, fig. 10.)

Long. $1\frac{1}{2}$ l.

Palpes noirs. Face et front larges, d'un vert noirâtres, à léger duvet gris. Antennes: les deux premiers articles fauves; premier un peu allongé et menu; troisième ovale, assez large, noir, à base fauve; style noir, peu allongé. Thorax d'un vert foncé, à bandes violettes. Abdomen vert; ventre à duvet blanc. Pieds jaunes, hanches antérieures noirâtres; un peu de brun à l'extremité des cuisses; tarses bruns. Ailes assez claires; première cellule postérieure presque fermée; deuxième nervure transversale éloignée du coude.

De l'Amérique septentrionale. (Collection de M. Hoffmeister de Nordhausen.)

(*Translation.*)—Golden-green. Thorax with violet stripes; feet yellow. Wings with the first posterior cell almost closed. (Tab. 12, fig. 10.) Long. lin. one and one-half.

Palpi black. Face and front broad, blackish-green, with a slight gray down. Antennæ: two first joints fulvous: the first somewhat prolonged and slender; the third oval, rather broad, black, with fulvous basis; arista black, not very long. Thorax dark-green, with violet stripes. Abdomen green, venter with whitish down. Feet yellow, anterior coxæ blackish; tip of femora somewhat infuscated; tarsi brown. Wings rather hyaline; first posterior cell almost closed; second transverse vein at some distance from the flexure of the fourth vein.

Hab. North America.

Walker, Insecta Saundersiana.

Page 207. **Psilopus lepidus** Mas.

Viridis, abdominis segmentorum marginibus anticis nigris, antennis pedibusque nigris, alis limpidis fusco-bifasciatis.

Bright-green, beset with black bristles; head blue, tinged with purple, adorned in front with white bloom; eyes bright-red; mouth black; feelers black; sixth joint as long as the chest; chest not shining, tinged with blue; breast with a hoary covering; abdomen tapering from the base to the tip, narrower and much longer than the chest; a black band on the fore border of each segment; legs black, clothed with black hairs and bristles; wings colorless, adorned with two dark-brown bands which are united on the fore border; tip cross-vein forming a right angle, whence it is indistinctly waving to the tip of the wing; lower cross-vein very slightly waving; wing-ribs and veins black. Length of the body two and one-half lines; of the wings six lines.

Mexico.

Page 211. **Medeterus exustus** Fem.

Nigro-æneus, capite antico viridi; abdomine purpureo cupreo, antennis pedibusque nigris, femoribus æneis, alis cinereis, costâ venarumque marginibus fuscis.

Allied to *M. notatus*. Bronze-black, beset with black bristles, which form a cross-row behind the head, adorned beneath with a whitish covering; head green in front, clothed beneath with black hairs; peristoma prominent; eyes red; facets of the fore part rather large; feelers black; abdomen obconical, coppery with a slight purplish tinge, not longer than the chest; legs long, black, thickly clothed with black down, beset with a few black bristles; thighs brassy, armed with black spines; foot-cushions dark-tawny; wings darkish-gray, very dark-brown beneath the fore border and along the borders of the veins in the disk; wing-ribs and veins black; poisers dark-tawny with pitchy knobs. Length of the body two and one-half lines; of the wings six lines.

Bolton, North America.

Page 212. **Medeterus viridiflos** Fem.

Fulvo-viridis, thoracis disco fusco, antennis pedibusque nigris, femoribus viridibus, alis subcinereis ad costam subfuscis.

Pale grassy-green, tinged with tawny above and with whitish bloom beneath, beset with a few black bristles; head brown about the eyelets, beset behind the eyes with a row of black bristles, clothed beneath with white hairs; eyes red, thickly clothed with short, white hairs; feelers black; disk of the chest brownish; abdomen obconical, longer than the chest, clothed with very short white hairs; legs black, clothed with very short black hairs, beset with black bristles; thighs green, with which color the shanks are also tinged; wings slightly gray, tinged with pale-brown beneath the fore border; wing-ribs and poisers tawny; veins black, tawny at the base. Length of the body one and one-half lines; of the wings four and one-half lines.

North America.

Page 212. **Dolichopus bifrons** Fem.

Æneo-viridis, capitis vertice cyaneo, abdominis segmentorum marginibus anticis cupreis, antennis fulvis, pedibus flavis, alis subcinereis.

Green, beset with black bristles, adorned beneath with a white covering; crown of the head blue, tinged with green and purple; an olive stripe between the feelers and the epistoma; eyes red; mouth pitchy. Feelers tawny; third joint pitchy towards the tip; sixth black, feathered; a brassy tinge on the chest; abdomen obconical, longer than the chest, coppery on the fore border of each segment whose sides are adorned with a white covering; legs yellow, clothed with very short black hairs, which as usual are most frequent on the feet; thighs stout, shanks beset with black bristles; wings very slightly gray; wing-ribs tawny; veins black, tawny at the base, poisers yellow. Length of the body one and one-half to one and three-fourth lines; of the wings three and one-half to four lines.

United States.

Page 213. **Dolichopus consors** Fem.

Æneo-viridis, vertice purpureo, thorace antico cyaneo, abdominis suturis nigris, antennis pedibusque fulvis, alis subcinereis.

Green, beset with black bristles, adorned beneath with a whitish covering; crown purple; eyes black; mouth tawny; feelers tawny; sixth joint black, feathered with much shorter hairs than those of *D. bifrons;* chest brassy-green, blue in front; abdomen obconical, clothed with short, black hairs, a little longer than the chest, sutures of the segments blackish; legs tawny, clothed with very short black hairs; shanks beset with black bristles; wings grayish; wing-ribs tawny; veins black, tawny at the base; poisers tawny with yellow knobs. Length of the body one and one-fourth line; of the wings three lines.

United States.

Page 213. **Dolichopus contingens** Fem.

Viridis, vertice purpureo, antennis pedibusque fulvis, alis subcinereis.

Green, beset with black bristles, adorned beneath with a whitish covering; crown purple; eyes black; mouth tawny; feelers tawny, sixth joint black, feathered like that of *D. consors;* abdomen obconical, clothed with short black hairs, a little longer than the chest; legs tawny, clothed with very short black hairs; shanks beset with black bristles; wings grayish; wing-ribs tawny; veins black, tawny at the base; tip cross-vein less angular than that of *D. consors;* poisers dark-tawny. Length of the body one and one-fourth line; of the wings three lines.

United States.

Page 213. **Dolichopus hebes** Fem.

Æneus, vertice cyaneo, abdominis segmentorum marginibus posticis viridibus, antennis pedibusque fulvis, alis cinereis costa venarumque marginibus fuscis.

Brassy, beset with black bristles, adorned beneath with a whitish covering; crown of the head blue; eyes red; feelers tawny, sixth joint black, feathered with very short hairs; abdomen obconical, longer than the chest; hind borders of the segments green; legs dark-tawny, clothed with very short black hairs; shanks beset with black bristles; wings gray, brown beneath the fore border, and along the borders of the veins; wing-ribs and veins black; poisers tawny with pitchy knobs. Length of the body one and one-fourth line; of the wings three lines.

United States.

Page 214. **Dolichopus ineptus** Fem.

Æneus, vertice purpureo, abdominis lateribus albo maculatis, apice viridi, antennis pedibusque fulvis, tarsis subpiceis, alis cinereis fusco vittatis.

Brassy, beset with black bristles, adorned beneath with a whitish covering; crown purple; eyes red; feelers tawny, sixth joint black, feathered with moderately long hairs; abdomen obconical, longer than the chest, green at the tip; a white spot on each side of every segment; legs dark-tawny, clothed with very short black hairs; shanks beset with black bristles; feet almost pitchy; wings gray, tinged with brown along the third and fourth longitudinal veins; wing-ribs tawny; veins black; poisers tawny, with ferruginous knobs. Length of the body one and one-fourth line; of the wings three lines.

United States.

Page 214. **Dolichopus maculipes** Fem.

Aeneo-viridis purpureo varius, antennis fulvis apice piceis, pedibus fulvis, tibiis nigro maculatis, tarsis piceis, alis cinereis costâ nervorumque marginibus fuscis.

Brassy-green, beset with black bristles, adorned beneath with a whitish covering; crown adorned with blue and purple; eyes red; feelers tawny; third joint pitchy; sixth black, feathered with moderately long hairs; disk of the chest partly purple; abdomen obconical, a little longer than the chest, clothed with short black hairs; legs tawny, clothed with very short black hairs; shanks beset with black bristles; feet almost pitchy; a black spot on the tip of each thigh; five or six black spots on each shank, these spots are most distinct on the hind legs; wings gray, brown beneath the fore border and along the borders of the veins; wing-ribs and poisers tawny; veins black. Length of the body one and one-half line; of the wings three and one-half lines.

United States.

Page 215. **Dolichopus pulcher,** Mas. et Fem.

Cyaneo-viridis, antennis nigris, femoribus viridibus, tibiis fulvis, tarsis piceis apice nigris, alis limpidis.

Bright green with a bluish tint, beset with black bristles, adorned beneath with a whitish covering; eyes bright red; feelers black; sixth joint bare; abdomen of the male cylindrical, of the female obconical, clothed with short black hairs, a little longer than the chest; scales of the male white, bordered with black; legs tawny, clothed with very short black hairs; thighs green; shanks beset with black bristles; feet pitchy, black towards the tips; trochanters of the male yellow, of the female tawny; wings colorless; wing-ribs tawny; veins black; fourth longitudinal vein not as usual converging to the third after its curve, but almost parallel to it; poisers yellow. Length of the body 1½ line; of the wings 3 lines.

United States.

Page 215. **Dolichopus varius,** Fem.

Æneo-viridis cyaneo varius, abdomine fasciis albidis ornato, antennis pedibusque fulvis, tarsis nigris, alis cinereis, costâ maculisque quinque fuscis.

Brassy-green, tinged with blue, beset with black bristles, adorned beneath with a whitish covering; eyes red; feelers tawny; sixth joint black, feathered with moderately long hairs; abdomen obconical, longer than the chest, adorned with bands of whitish hue; legs dark tawny; clothed with short black hairs; shanks beset with black bristles; feet black; wings gray, brown beneath the fore border, adorned with four or five brown spots; wing-ribs pitchy; veins black; poisers tawny. Length of the body 1¼ line, of the wings 3 lines.

United States.

Walker, List of Dipterous Insects in the Collection of the British Museum, Part III.

Page 645. **Psilopus delicatus,** n. s., Fem.

Viridis, gracilis, abdomine aureo-viridi, antennis fulvis, articulo tertio nigro, pedibus flavis, alis limpidis.

Body slender, bright green, clothed with black hairs and bristles; crown of the head blue; eyes bright red; mouth yellow; feelers tawny; third joint black; bristle black, shorter than the chest; abdomen golden-green; legs pale yellow, long and slender, clothed with short black hairs; feet pitchy towards the tips; wings colorless; wing-ribs and poisers tawny; veins pitchy. Length of the body 2¼ lines, of the wings 5 lines.

a. New York. Presented by the Entomological Club.

b. New York. Presented by E. Doubleday, Esq.

Page 646. **Psilopus gemmifer,** n. s., Mas.

Viridis, cyaneo purpureoque varius, antennis nigris, pedibus flavis, alis limpidis, costâ apicem versus nervisque transversis fusco-nebulosis.

Body bright green, beset with black hairs and bristles; head covered in front with silvery down; eyes red; mouth tawny; feelers black, as long as the head and the chest, disk of the chest bluish-green, tinged with purple; scutcheon purple; sides and breast covered with silvery bloom; abdomen slender; tip bluish purple; appendages dark tawny; legs yellow, beset with black hairs and bristles, which are most thick on the feet; four hinder hips green; thighs clothed with white hairs; feet towards the tips and hind feet pitchy; wings colorless, clouded with pale brown towards the tips of the fore borders and along the cross-veins; wing-ribs tawny; veins black; poisers tawny. Length of the body 2½ lines, of the wings 5½ lines.

a. Trenton Falls. Presented by E. Doubleday, Esq.

Page 646. **Psilopus chrysoprasi,** n. s.

Aureo-viridis, capitis vertice purpureo-cyaneo, scutello abdominisque basi purpureis, abdominis segmentorum suturis æneo-purpureis, antennis nigris, pedibus piceis, femoribus viridibus, tibiis anterioribus tarsisque anticis fulvis, alis subcinereis.

Body golden-green, beset with black bristles; head purplish-blue on the crown, slightly covered with white down in front; eyes bright red; mouth and feelers black; scutcheon purple; abdomen adorned with purple towards the base; sutures of the segments brassy-purple; legs pitchy, thickly clothed with short black hairs; hips and thighs green; hips slightly covered with white bloom, thighs fringed with white hairs; fore shanks pale tawny; middle shanks and fore feet dark tawny; wings slightly gray;

wing-ribs and poisers pitchy; veins black. Length of the body 2 lines, of the wings 4½ lines.

a. West Indies. From Mr. Children's collection.

Page 648. **Psilopus suavium,** n. s.

Viridis, capitis vertice cyaneo-purpureo, abdomine apicem versus purpureo, antennis pedibusque nigris, femoribus viridibus, alis limpidis, fusco bifasciatis.

Body bright green, beset with black bristles; head bluish-purple on the crown, clothed with white down in front; eyes red; mouth pitchy; feelers black; bristle nearly as long as the chest; breast and sides of the chest covered with a white bloom; abdomen purple towards the tip; legs black, beset with black hairs and bristles; hips and thighs green; hips covered with a white bloom; thighs clothed with white hairs; wings colorless, adorned with two brown bands, which are joined together on the fore border and more slightly on the disk, but do not reach the hind border nor the tip; veins black; wing-ribs and poisers pitchy. Length of the body 2½ lines, of the wings 5 lines.

a. Jamaica. From Mr. Grosse's collection.

Page 648. **Psilopus amatus,** n. s., Mas. et Fem.

Viridis, capite purpureo, abdomine nigro-fasciato apice purpureo, antennis nigris, pedibus piceis, femoribus viridibus, alis subcinereis, costâ apicem versus nervisque transversis fusco nebulosis.

Body bright green, beset with black hairs and bristles; head purple, covered in front with white down; crown of the male adorned with a green spot on each side; eyes red; mouth and feelers black; bristle a little shorter than the chest; hind part of the chest tinged with blue and purple; sides and breast covered with white down; abdomen at the tip purple in the male, bluish-purple in the female; hind borders of the segments in the male adorned with black bands; legs pitchy, beset with black hairs and bristles; hips and thighs green, the former covered with white down; wings slightly gray, indistinctly marked with brown towards the tips of the fore borders and along the cross-veins; wing-ribs pitchy; veins black; poisers of the male pitchy, of the female tawny. Length of the body 1½—1¾ line, of the wings 3¾—4 lines.

a. New York. Presented by E. Doubleday, Esq.

b. Trenton Falls. Presented by E. Doubleday, Esq.

Page 649. **Psilopus inficitus,** n. s.

Viridis, capite purpureo, abdomine purpureo,* abdomine purpureo-cyaneo, fasciis nigris, antennis pedibusque nigris, alis subcinereis fusco bifasciatis.

Head and chest beset with black bristles; head purple, fringed about the mouth with hoary hairs; eyes red; mouth and feelers black; bristle a little longer than the chest; chest green; sides and breast covered with whitish down; abdomen deep purplish-blue; sutures of the segments black; legs black, clothed with black hairs and bristles; wings slightly gray, adorned with two brown bands, which are united on the fore border, but do not reach the hind border; wing-ribs and veins black; poisers pitchy, with tawny knobs. Length of the body 2½ lines, of the wings 5 lines.

a. Mexico. Presented by E. P. Coffin, Esq.

Page 650. **Psilopus nigrofemoratus,** MSS.

Cyaneo-, aut aureo-viridis, antennis nigris, capite duplo longioribus, pedibus nigris tibiis fulvis, alis limpidis.

Head and chest bright bluish-green, armed with black bristles; head covered in front with white down, clothed beneath with white hairs; eyes red; mouth tawny; feelers black, about twice the length of the head; breast and under side of the abdomen covered with white bloom; abdomen golden-green, blue at the base, coppery at the tip; legs black, beset with a few black bristles; shanks tawny, with black tips; wings colorless; wing-ribs tawny; veins black; poisers yellow. Length of the body 1¼ line, of the wings 2½ lines.

Var. β. Chest golden-green, bluish-green behind; abdomen coppery-green; tips of the thighs and the whole of the shanks tawny.

Var. γ. Abdomen bright green or bluish-green; a bronze band on the fore border of each segment.

a. North America. Presented by the Entomological Club.

b. Nova Scotia. From Lieut. Redman's collection.

Page 651. **Psilopus albicoxa** Mas. et Fem.

Cyaneo-, aut cupreo-viridis, antennis nigris, capite duplo longioribus, pedibus flavis; tarsis posticis nigris, alis subcinereis.

Head and chest armed with black bristles; head bluish-green,

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* Evidently a misprint in the original.

covered in front with white down, clothed beneath with white hairs; eyes red; mouth tawny; feelers black, about twice the length of the head; palpi black; chest of the male bluish-green, sometimes black towards the tip, of the female bright green or coppery-green; sutures of the segments sometimes black; breast and under side of the abdomen covered with white down; legs yellow, adorned with rows of minute spines, clothed with a few white hairs, and beset with a few black bristles; four hinder hips green; tips of feet black; hind feet black, first joint brownish; wings slightly gray, wing-ribs tawny; veins black; poisers yellow. Length of the body $1\frac{1}{4}$ line; of the wings $2\frac{1}{2}$ lines.

a. North America. Presented by the Entomological Club.
b. Ohio. Presented by the Entomological Club.
c. Massachusetts. From Prof. Sheppard's collection.
d. Nova Scotia. From Lieut. Redman's collection.

Page 651. **Chrysotus incertus,** n. s.

Viridis, antennis nigris, femoribus viridibus, tibiis fulvis, apice tarsisque obscurioribus, alis limpidis.

Allied to *C. femoralis.* Body green, beset with black hairs and bristles; eyes red; mouth and feelers black; hips and thighs green; shanks tawny; feet and tips of shanks dark tawny; wings colorless; wing-ribs pitchy; veins black; poisers tawny.

a. United States. Presented by the Entomological Club.

Page 653. **Porphyrops pilosicornis,** BARNSTON'S MSS.

Æneo-viridis, antennis nigris, pedibus fulvis, tarsis piceis, femoribus posticis apice fusco maculatis, alis limpidis.

Body brassy-green, beset with black bristles; eyes dark-red; mouth dark tawny; feelers black; bristle downy, proceeding from the base of the third joint and more than twice its length; breast and sides of the chest covered with a white bloom, which appears also on the chest, but is there very slight; legs tawny, clothed with short black hair, beset with a few black bristles; feet pitchy; a small brown mark on the tip of each hind thigh; fore hips at the base and the other hips green and covered with white bloom; wings colorless; wing-ribs tawny; veins black; poisers yellow. Length of the body $1\frac{1}{4}$ line; of the wings $2\frac{1}{2}$ lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 655. **Medeterus glaber,** BARNSTON'S MSS.

Viridis, thoracis disco nigro-æneo, abdomine æneo-viridi, antennis nigris, pedibus viridibus, tarsis nigris, alis cinereis, fusco bimaculatis.

Body green ; head and chest beset with a few black hairs ; head covered with white bloom in the male, with golden bloom in the female ; eyes red ; mouth and feelers black ; disk of the chest bronze-black ; sides covered with tawny bloom ; breast covered with white bloom ; abdomen brassy-green, covered above with short tawny hairs ; under side covered with white bloom ; legs bright green, rather stout, clothed with short black hairs and bristles ; hips covered with white bloom ; feet black ; wings gray ; each with two small brown spots, one on the cross-vein, the other on the fourth longitudinal vein, a little before half the distance between the cross-vein and the tip of the wing ; wing-ribs pitchy ; veins black ; poisers tawny. Length of the body 1¾ line ; of the wings 5 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 655. **Medeterus chrysologus,** BARNSTON'S MSS., Fem.

Nigro-æneus, antennis nigris, pedibus viridibus, tarsis nigris, alis cinereis, fusco bimaculatis, ad costam subfuscis.

Body brassy black ; head covered with golden bloom, which is paler and brighter towards the mouth ; eyes dark-red, covered with white down ; mouth and feelers black ; sides of the chest covered with tawny bloom ; breast and under side of the abdomen adorned with white bloom ; a row of black punctures on each side of the abdomen, as in other species ; legs green, clothed with black hairs and bristles ; hips and thighs covered with white bloom ; feet black ; wings gray, brown along the fore borders, each with two darker brown spots, like those of *M. glaber*, but larger and more distinct ; wing-ribs tawny ; veins black ; poisers pitchy. Length of the body 1¼ line ; of the wings 3 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 656. **Medeterus alboflorens,** n. s., Fem.

Æneus, fulvo pubescens, subtus albus, abdomine cupreo-viridi, antennis nigris, pedibus viridibus, tarsis piceis, alis cinereis fusco subvittatis.

Head and chest bronzed, beset with a few black bristles, thickly covered with tawny bloom; eyes dark red, covered with white down; mouth and feelers black; abdomen rather light green, mingled with copper-color, thinly clothed with short black hairs, not longer than the chest; hind chest, breast, and under side of the abdomen covered with white bloom; legs long, slender, green, slightly covered with tawny bloom, beset with short black hairs and bristles; feet pitchy towards the tips; claws black; foot-cushions pale yellow; wings gray, very slightly clouded with brown along the borders of the veins; wing-ribs pitchy; veins black; poisers tawny, pitchy, and covered with white bloom towards the tips. Length of the body $1\frac{1}{3}$–$1\frac{1}{2}$ line; of the wings 4–$4\frac{1}{2}$ lines.

a. Nova Scotia. From Lieut. Redman's collection.

Page 659. **Dolichopus affinis,** Haliday's MSS., Mas. et Fem.

Cyaneo-, aut cupreo-viridis, antennis nigris, pedibus flavis, femoribus posticis tarsisque fulvis, tarsis anticis, *mari.* apice nigris dilatatis, tarsis posticis nigris, alis limpidis.

Male.—Head and chest green, armed with stout black bristles; head fringed behind with pale tawny hairs, covered in front and beneath with white bloom; eyes red, covered with white down; feelers black; chest bluish-green on the disk; abdomen coppery-green, clothed with short black hairs, covered with white bloom beneath and on each side, where there is a row of black punctures; appendages pale yellow; legs yellow, clothed with short black hairs; four hinder hips green; hind thighs tawny, furnished with a few tawny hairs; shanks and feet armed with black bristles; feet tawny, darker towards the tips; hind feet black; tips of fore feet black, widened; wings colorless; wing-ribs and poisers yellow; veins pitchy.

Female.—Body coppery-green; legs tawny; shanks darker than the thighs; hind feet pitchy. Length of the body 2–$2\frac{1}{2}$ lines; of the wings 4–5 lines.

a. Nova Scotia. From Lieut. Redman's collection.

Page 660. **Dolichopus cuprinus?** Wied., Auss. Zweif. ii, 230, 1.
D. cupreus? Say, Journ. Acad., Phila., iii. 8, 6.

Aureo-viridis, thorace vittis tribus cupreis, antennis fulvis apice fuscis, pedibus flavis, tarsis apice nigris, anticis apice nigro-fasciculatis, alis subcinereis.

Body green, covered above with golden down, beneath with white down; head and chest armed with stout black bristles; hind part of the head fringed with white hairs; eyes red; mouth yellow; feelers tawny, covered with short black hairs; their tips brown; bristle pubescent, pitchy, longer than the rest of the feelers; chest adorned with three coppery stripes; abdomen golden green, clothed with short black hairs, white beneath and on each side, where it has a row of black punctures; appendages yellow; legs yellow, clothed with black hairs; four hinder hips green; feet towards the base and shanks armed with black bristles; four hinder feet black towards the tips; tips of fore feet adorned with tufts of black hairs; wings slightly gray; wing-ribs tawny; veins pitchy; poisers yellow. Length of the body 2½ lines; of the wings 5 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 660. **Dolichopus lamellipes,** Barnston's MSS., Mas. et Fem.

Viridis aut viridi-cupreus, abdomine subtus albo-pubescente, antennis nigris basi rufis, articulo tertio *mari.* longo, pedibus fulvis, tarsis nigris, intermediis basi fulvis, anticis *mari.* apice dilatatis, alis limpidis.

Body green; head and chest armed with black bristles; head covered with silvery down, fringed behind with black hairs; eyes red; mouth tawny; feelers black; first joint pale red; third joint very long; abdomen clothed with black hairs, adorned with a coppery tinge towards the tip, which is black, covered with white bloom beneath and on each side, where there is a row of black punctures; legs pale tawny, four hinder hips green, clothed with black hairs and bristles; feet black; tips of fore feet widened; middle feet tawny towards the base; wings colorless; wing-ribs tawny; veins pitchy; poisers pale tawny.

Female.—Third joint of the feelers short, nearly round. Length of the body 2½–3 lines; of the wings 5 lines.

Var. β. Chest and abdomen coppery.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 661. **Dolichopus ciliatus,** Barnston's MSS., Mas. et Fem.

Viridis, capitis fronte aureo-pubescente, antennis fulvis, articulo 3° supra nigro, pedibus fulvis, tarsis piceis alis subcinereis.

Body green; head covered in front with golden down; eyes red; mouth black; feelers tawny; third joint nearly oval, black from near the base to the tip above, and from half its length to the tip beneath; bristle black; breast and sides of the chest and of the abdomen covered with white bloom; appendages of the abdomen tawny; scales white; legs tawny; feet pitchy; fore feet dark tawny; wings slightly gray; wing-ribs tawny; veins black; poisers yellow. Length of the body $1\frac{1}{2}$–$1\frac{3}{4}$ line; of the wings 3 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 661. **Dolichopus adjacens,** n. s., Fem.

Æneus viridi varius, capite cyaneo-viridi, antennis nigris, pedibus fulvis, tarsis posticis piceis, alis subcinereis.

Head bluish-green on the crown, covered in front with yellowish white down, fringed along the eyes with hoary hairs; eyes red; mouth pitchy; palpi tawny; feelers black; third joint very short; chest and abdomen brassy, mingled with green; breast and sides of the chest covered with gray bloom, which also appears beneath the abdomen, but is more slight; legs tawny; hips green, covered with gray bloom; fore hips mostly tawny; feet darker than the shanks, especially towards the tips; hind feet pitchy; wings slightly gray; wing-ribs and poisers tawny; veins black. Length of the body 3 lines; of the wings 6 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 661. **Dolichopus coercens,** n. s., Mas.

Viridis, capite cyaneo-viridi, thoracis lateribus cupreo et cyaneo ornatis, abdomine cupreo vario, apice nigro, antennis nigris, pedibus fulvis, alis limpidis.

Head bluish-green, covered in front with pale tawny down, fringed along the eyes with white hairs; eyes bright red; mouth pitchy; feelers black; third joint very short; chest green, slightly tinged on each side with blue and copper color; disk sometimes bluish-green; breast covered with hoary down; abdomen green, with a coppery tinge here and there; tip black; appendages pale tawny; scales white, bordered with black; legs tawny; hips, towards the base, green, and covered with a white bloom; shanks beset with black bristles; feet pitchy towards the tips; fore feet slender, pale tawny; their tips black, and much widened; wings colorless; wing-ribs and poiser tawny; veins black. Length of the body 3 lines; of the wings 5½ lines.

a. New York. Presented by the Entomological Club.

Page 662. **Dolichopus finitus,** n. s., Mas.

Viridis, thoracis lateribus abdomineque cupreo variis, hujus lateribus basi cyaneo-viridibus, antennis nigris, pedibus fulvis, tarsis apice nigris, tarsis anticis apice latis, tarsis posticis nigris, alis subcinereis.

Body green; head covered in front with white down; fringed along the eyes with white hairs; eyes red; mouth pitchy; palpi tawny; feelers black; third joint rather large; chest with a slight coppery tinge on each side, which, like the breast, is slightly covered with hoary bloom; abdomen tinged with coppery color, and with a slight blue hue on each side towards the base; appendages at the tip tawny; scales white, bordered with black; legs tawny, middle feet towards the tips, and hind feet, excepting the base, black; tips of fore feet black and somewhat widened; wings slightly gray, wing-ribs and poisers tawny; veins pitchy. *Fem.*—Feet black, tawny at the base. Length of the body 3 lines; of the wings 5 lines.

a. New York. Presented by the Entomological Club.

Page 662. **Dolichopus distractus,** n. s.

Viridis, abdomine cupreo, antennis nigris, articulo 1° subtus fulvo, pedibus fulvis, tarsis apice piceis, alis subcinereis.

Body green; head covered in front with white down, clothed on each side of the eyes with white hairs; eyes bright red; feelers black; first joint tawny beneath; third joint short and broad;

abdomen copper colored; legs tawny; feet pitchy towards the tips; wings slightly gray; wing-ribs and poisers tawny; veins black. Length of the body 2½ lines; of the wings 5 lines.

a. New York. Presented by E. Doubleday, Esq.

Page 662. **Dolichopus discessus,** n. s., Fem.

Cyaneo-viridis, thorace cupreo bivittato, abdomine æneo-viridi, antennis pedibusque fulvis, tarsis posticis piceis, alis subcinereis.

Body bluish-green; head covered in front with white down; eyes bright red; mouth and feelers tawny; bristle black; chest adorned with two bright copper-colored stripes; sides and breast covered with white bloom; abdomen green, brassy here and there, especially towards the tip; sides and under side covered with white down; legs tawny; tips of feet and hind feet, except the base, pitchy; wings slightly gray; wing-ribs and poisers tawny; veins black. Length of the body 2½ lines; of the wings 5½ lines.

a. Massachusetts. From Prof. Sheppard's collection.

Page 663. **Dolichopus contiguus,** n. s., Mas.

Aureo-viridis, thorace viridi-cyaneo, lateribus purpureo variis, abdomine cyaneo et cupreo vario, antennis nigris, pedibus fulvis, tarsis anticis apice nigris latis, tarsis mediis piceis, basi fulvis, tarsis posticis nigris, alis limpidis.

Head golden-green, covered in front with pale tawny down; eyes bright red; feelers black; third joint oval; chest greenish-blue, with a slight purple tinge on each side; abdomen golden-green, slightly bluish and coppery here and there; breast and under side of the abdomen covered with hoary bloom; tip black; appendages tawny, scales whitish; legs tawny; four hinder hips mostly green, and tinged with hoary bloom; tips of fore feet black, much widened; middle feet pitchy, tawny at the base; hind feet black; wings colorless; wing-ribs and poisers tawny; veins pitchy, tawny towards the base. Length of the body 2 lines; of the wings 4 lines.

a. New York. Presented by the Entomological Club.

Page 663. **Dolichopus exclusus,** n. s., Fem.

Cupreus, nonnunquam viridi varius, abdomine purpureo-cupreo, antennis nigris, articulo primo subtus fulvo, pedibus fulvis, tarsis nigris, alis subcinereis.

Body coppery, sometimes varied with green; head covered in front with white bloom; eyes red; mouth pitchy; palpi tawny; feelers black; first joint tawny beneath; third joint oval, as long as the first and the second; breast covered with gray bloom; abdomen purplish copper-color, covered beneath with gray bloom; legs tawny; hips coppery; fore hips mostly tawny; feet black; wings slightly gray; wing-ribs tawny; veins black; poisers pale tawny. Length of the body 2 lines; of the wings 4½ lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 664. **Dolichopus confinis,** n. s., Fem.

Æneus, viridi varius, capite viridi, antennis nigris, pedibus fulvis, tarsis piceis, tibiis posticis apice tarsisque posticis nigris, alis cinereis.

Body brassy, mingled here and there with green; head green, covered in front with white down, clothed along the sides of the eyes with white hairs; eyes red; mouth pitchy; feelers black; third joint nearly oval, rather short; breast covered with white bloom; legs tawny; feet pitchy, tawny towards the base; hind feet and tips of hind shanks black; wings gray; wing-ribs and poisers tawny; veins black. Length of the body 2 lines; of the wings 4 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 664. **Dolichopus conterminus,** n. s., Mas.

Viridis, thoracis disco abdomineque aureo-viridibus, hujus apice æneo, antennis nigris, pedibus fulvis, tarsis anticis apice nigris latis, tarsis mediis apice posticisque piceis, alis limpidis, *fem.* tarsis piceis basi fulvis, tarsis posticis nigris.

Body bright green; head covered with tawny down, fringed along the sides of the eyes with white hairs; eyes bright red, covered with white down; mouth pitchy; palpi tawny; feelers black; third joint rather large; abdomen and disk of the chest golden-green; breast and sides of the chest covered with hoary bloom, which also slightly tinges the under side of the abdomen; tip of the abdomen brassy; appendages tawny; scales white, slightly bordered with black; legs pale bright tawny; four hind hips mostly green, and covered with a white bloom; thighs fringed with white hairs, fore feet slender, with black and much widened tips; middle feet pitchy towards the tips; hind feet pitchy; wing colorless; wing-ribs tawny; veins black; poisers pale tawny. *Fem.*—Feet pitchy, tawny towards the base; hind feet black. Length of the body 2 lines; of the wings 4 lines.

a. New York. Presented by E. Doubleday, Esq.

b. North America. Presented by the Entomological Club.

Page 665. **Dolichopus separatus,** n. s., Fem.

Viridis, abdominis apice cupreo, antennis fulvis, articulo tertio apice nigro, pedibus fulvis, tarsis nigris, alis subcinereis.

Body green; head covered in front with tawny down; eyes red; mouth pitchy; palpi tawny; feelers tawny; third joint oval, black towards the tip; bristle black; breast, sides of the chest and under side of the abdomen covered with white bloom; abdomen coppery towards the tip; legs tawny; four hind hips green, covered with white bloom; feet black; wings slightly gray; wing-ribs and poisers tawny; veins black. Length of the body 2 lines; of the wings 4 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 665. **Dolichopus terminatus,** n. s., Fem.

Aureo-viridis, capite cyaneo-viridi, abdomine cupreo basi viridi, antennis nigris, pedibus fulvis, tarsis piceis basi fulvis, alis subcinereis fusco subvittatis.

Head bluish-green, covered in front with golden down, fringed on each side with white hairs; eyes bright red; mouth pitchy; palpi tawny; feelers black; third joint nearly oval; chest golden-green; sides and breast covered with hoary bloom, which also appears beneath the abdomen; abdomen copper-color, green at the base; legs tawny; four hind hips green, covered with white bloom; feet pitchy, tawny towards the base; wings slightly gray, indistinctly tinged with brown along the borders of the veins; wing-ribs and poisers tawny; veins pitchy. Length of the body 2 lines; of the wings 4 lines.

a. North America. Presented by the Entomological Club.

Page 666. **Dolichopus sequax,** n. s.

Cyaneo-viridis, thorace æneo-viridi, abdominis apice æneo, antennis fulvis, articulo tertio nigro subtus fulvo, pedibus fulvis, tarsis nigris anticis piceis, alis limpidis.

Body bluish-green; head covered in front with golden down; eyes red; mouth pitchy; feelers tawny; third joint black, tawny beneath towards the base; bristle black; chest with a slight brassy tinge; breast covered with a hoary bloom; abdomen bluish-green; tip bronzed; appendages tawny; scales white, with dark borders, under side slightly covered with hoary bloom; legs tawny, feet black; four hind hips mostly green, covered with white down; middle shanks with a slight tuft of black hairs at the base; fore feet pitchy, tawny at the base; wings colorless; wing-ribs and poisers tawny; veins black. Length of the body $1\frac{3}{4}$ line; of the wings 3 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 666. **Dolichopus soccatus,** Barnston's MSS.

Æneus, capite viridi, abdomine cupreo basi viridi, antennis fulvis, articulo tertio nigro subtus fulvo, pedibus fulvis, tarsis nigris, alis subcinereis.

Head green, covered in front with hoary down, fringed along the eyes with whitish hairs; eyes red; mouth tawny; feelers tawny; third joint black, very short, tawny beneath till near the tip; bristle black; chest brassy; sides and breast covered with hoary bloom; abdomen coppery, green at the base; legs tawny; feet black; wings slightly gray; wing-ribs tawny; veins black; poisers yellow. Length of the body $1\frac{3}{4}$ line; of the wings $3\frac{1}{2}$ lines.

Var. β. Body brassy, tinged with green.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by G. Barnston, Esq.

Page 666. **Dolichopus remotus,** n. s.

Æneo-viridis, capite thoracisque lateribus cyaneo-viridibus, abdomine basi viridi, antennis nigris, pedibus fulvis, tibiis posticis apice tarsisque posticis nigris, alis limpidis.

Head bluish-green, clothed in front with white down; fringed on each side with white hairs; eyes red; feelers black; chest brassy green, bluish-green on each side; breast covered with hoary bloom; abdomen brassy, green at the base, tinged with green on each side, covered with white bloom beneath; tip black; appendages tawny; scales white, bordered with black; legs tawny; tips of feet pitchy; hind feet and tips of hind shanks black; wings colorless; wing-ribs and poisers pale tawny; veins black. Length of the body 1½ line; of the wings 3 lines.

a. North America. Presented by the Entomological Club.

Page 667. **Dolichopus irrasus,** s. n., Fem.

Cyaneus, abdomine æneo, antennis nigris, pedibus fulvis, tarsis piceis, alis cinereis fusco subvittatis.

Body deep blue, beset with black hairs and bristles; head covered in front with a silvery bloom; eyes red; mouth and feelers black; chest covered with ferruginous bloom; sides and chest covered with white bloom; abdomen dark bronze, slightly covered with white bloom, not longer than the chest; legs tawny, clothed with black hairs and bristles; feet pitchy; wings gray, brownish along the borders of the veins; wing-ribs and veins black; fourth longitudinal vein slightly bent; poisers dark tawny. Length of the body 1 line; of the wings 2 lines.

a. Florida. Presented by E. Doubleday, Esq.

Page 667. **Orthochile derempta,** n. s.

Viridis, thoracis disco cupreo, abdomine purpureo, basi apiceque cyaneo-viridi, lateribus aureo-viridibus, antennis nigris, pedibus fulvis, femoribus viridibus, alis subcineris.

Body green; head and chest beset with black bristles; eyes and mouth black; feelers black; third joint very short, round; bristle proceeding from its tip; disk of the chest copper-colored; abdomen purple, clothed with black hairs, bluish-green at the base and at the tip, golden-green along each side; legs tawny, clothed with short black hairs; hips and thighs green; wings slightly gray; wing-ribs and poisers tawny; veins pitchy. Length of the body 1¼ line; of the wings 3 lines.

a. North America. Presented by the Entomological Club.

Walker, in the Transactions of the Entomological Society, Tom. IV.

Page 149. **Psilopus ungulivena.**

Mas.—Læte viridis, antennis nigris thorace longioribus, thorace subcyanescente, abdomine subaurato, pedibus testaceis, alis subcinereis, venis nigris.

Male.—Bright green; antennæ black, much longer than the thorax; thorax slightly bluish; abdomen somewhat gilded; legs testaceous, long, slender; wings grayish; veins black, fore-branch of the præbrachial vein very much bent, nearly rectangular; discal transverse vein very deeply undulating. Length of the body 4½ lines; of the wings 7 lines.

United States.

Walker, in the Transactions of the Entomological Society, Tom. V.

Page 287. **Psilopus solidus.**

Fœm.—Cyaneo-viridis, robustus, subtus albido-tomentosus, antennis pedibusque nigris, abdominis lateribus basi cupreis, alis subcinereis, fasciis duabus (1^a media lata, 2^a apicali latissima) nigris antice connexis, halteribus testaceis.

Female.—Bright bluish-green, stout, with whitish tomentum beneath; antennæ and legs black; abdomen bright cupreous on each side at the base; wings slightly grayish, with a broad black band in the middle and a very broad apical black band, the two bands connected in front; fore branch of the præbrachial vein almost rectangular; discal transverse vein straight, oblique; halteres dull testaceous. Length of the body 3 lines; of the wings 7 lines.

Mexico.

Page 287. **Psilopus peractus.**

Fœm.—Viridis, robustus, subtus albido-tomentosus, capite cyaneo, antennis, pedibus halteribusque nigris, abdomine æneoviridi, alis subcinereis, venis nigris.

Female.—Green, stout, with whitish tomentum beneath; head blue; antennæ and legs black; abdomen æneous-green; wings grayish; veins black; fore-branch of the præbrachial vein obtusely rectangular; discal transverse vein oblique, almost straight; halteres black. Length of the body 2½ lines; of the wings 4 lines.

Mexico.

Page 287. **Psilopus hæreticus.**

Fœm.—Purpureo-niger, latus, nitens, subtus albido-tomentosus, capite, antennis pedibusque nigris, abdomine nigricante purpureo, alis subcinereis, venis nigris.

Female.—Purplish-black, broad, shining, with whitish tomentum beneath; head, antennæ and legs black, the latter rather stout; thorax rather thickly beset with black bristles; abdomen blackish-purple; wings slightly grayish; veins black; fore-branch of the præbrachial vein rectangular, but with the angle somewhat rounded; discal transverse vein oblique, nearly straight. Length of the body 1¾ line; of the wings 3½ lines.

Mexico.

Page 288. **Psilopus permodicus.**

Mas.—Aureo-viridis, gracillimus, antennis pedibusque flavescente albis, alis limpidis, venis halteribusque pallidis.

Male.—Golden-green, very slender; antennæ and legs yellowish-white; wings limpid; veins pale; fore-branch of the præbrachial vein obtusely rectangular; discal transverse vein oblique, straight; halteres very pale. Length of the body 1¾ line; of the wings 4 lines.

Mexico.

SUPPLEMENT

TO THE

MONOGRAPH ON NORTH AMERICAN DOLICHOPODIDÆ.[1]

I. *General Remarks on the Dolichopodidæ of North America.*

THAT the North American fauna of *Dolichopodidæ* is an exceedingly rich one, is proved by that portion of it upon which I have based the present publication. I am satisfied that this fauna far exceeds the European fauna in the variety of forms and in the number of species.

I take the following points to be peculiar to this fauna: 1. The apparently rather numerous species of *Pelastoneurus;* 2. The remarkable abundance of closely allied species of true *Gymnopternus;* 3. The number of species of *Chrysotus* distinguished by a variety of plastic characters, which is not generally the case in this genus; 4. The abundance of species of *Diaphorus* and of forms related to this genus. Our knowledge of the genera occurring in North America is too limited, yet, to indicate the absence of some of them as being peculiar to the fauna.

A very striking circumstance connected with the North American fauna of *Dolichopodidæ* is, that precisely in those points which we have just enumerated as peculiar to it, this fauna shows the most remarkable analogy to the remains of the fossil fauna of the same family preserved in amber. In both, there is the same abundance of species of genuine *Gymnopternus,* difficult to distinguish on account of their close resemblance; in both, the same frequence of species of *Chrysotus*, and not only the same variety of plastic specific characters among them, but even a most striking conformity in the nature of these characters; in both, numerous species of *Diaphorus* and of forms related to them. A certain coincidence is even perceptible among those genera, which hitherto are not represented either in the North American or in the amber-fauna. It must be added, however, that the latter shows nothing like the great abundance of the North American fauna in species of genuine *Dolichopus*.

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[1] The volume had already gone through the press when the present supplement was sent in by Mr. Loew. It contains descriptions of the new species discovered mostly by me during the summer 1863. The *General Remarks,* prefixed to this Supplement, form an important addition to the preface of this volume (page iii—vi). O. S.

It would be difficult at present to make any satisfactory statement as to the relation in which the North American fauna of *Dolichopodidæ* stands to that of any other zoological province, as, with the exception of the European fauna, our knowledge of other faunas is not sufficient for this purpose. From what we know, however, we distinctly perceive that the North American fauna closely approaches the European and the North Asiatic faunæ in the species of the genera *Hygroceleuthus*, *Dolichopus*, *Tachytrechus*, *Campsicnemus*, *Scellus*, *Hydrophorus*, *Liancalus*, *Chrysotimus*, and *Xanthochlorus*, whereas its coalescence with the South American fauna is apparent in the species of *Paraclius*, *Pelastoneurus*, *Lyroneurus*, and *Plagioneurus*. The species of genuine *Gymnopternus*, so numerous in North America, are but scantily represented in Europe. The North American species of *Diaphorus* agree in part with the European, in part with the South American species. The North American species of *Argyra*, *Porphyrops*, *Leucostola*, and *Liancalus* do not show any striking difference from the European species of these genera, but just as little from the South American species.

Of such species, as are common to Europe and North America, the following have hitherto come under my observation: *Dolichopus brevipennis* Meig., *Dolichopus plumipes* Scop., *Dolichopus discifer* Stann., *Scellus spinimanus* Zett., and *Psilopus pallens* Wied. The first four of these species belong altogether to specific types commonly represented on both continents; but this is not the case with *Psilopus pallens*. This species unquestionably belongs to the circle of European types of *Psilopus*, whereas all the North American *Psilopus* at present known closely approach the types of their South American brethren. It seems, therefore, not altogether unnatural to suppose that this species, which, according to Baron Osten Sacken's statement, is not uncommon in the lower parts of New York City, should have been accidentally imported in ships from the south of Europe. As species common to both continents may perhaps be also regarded *Diaphorus nigricans* Meig. and *Xanthochlorus tenellus* Wied.; the North American *Diaphorus opacus* might be considered as identical with the first, *Xanthochlorus helvinus* with the second of these species; certainty about this point, however, can only be acquired by the close comparison of a larger number of well-preserved specimens of the two American species.

II. *Description of some Species communicated after the Volume had gone through the Press.*

Gen. II. **DOLICHOPUS.**

Corrected Table for determining the Species.

1	Prevailing color of the feet black.	2
	Prevailing color of the feet yellow.	9
2	Cilia of the inferior orbit black.	3
	Cilia of the inferior orbit whitish.	4
3	Face ochre-yellow.	1 **gratus** *Lw.*
	Face silvery white.	2 **laticornis** *Lw.*
4	First joint of the hind tarsi with numerous bristles.	3 **setifer** *Lw.*
	First joint of the hind tarsi with a few bristles.	5
5	Hind tibiæ black only at the tip.	6
	Hind tibiæ entirely black.	7
6	The black color at the tip of the hind tibiæ is rather extended and not very sharply limited.	4 **albiciliatus** *Lw.*
	The black color at the tip of the hind tibiæ but little extended and sharply limited.	5 **xanthocnemus** n. sp.
7	A considerable extent of the tip of the femora yellow.	6 **tetricus** n. sp.
	The extreme tip of the femora only somewhat yellowish.	8
8	Lamellæ of the hypopygium pointed.	7 **acuminatus** *Lw.*
	Lamellæ of the hypopygium rounded ovate.	8 **ovatus** *Lw.*
9	Cilia of the inferior orbit black.	10
	Cilia of the inferior orbit pale.	12
10	Fore coxæ blackish.	9 **pachycnemus** *Lw.*
	Fore coxæ yellow.	11
11	The first two joints of the antennæ yellow.	43 **dorycerus** *Lw.*
	The whole antennæ black.	10 **brevipennis** *Meig.*
12	Tegulæ with pale cilia.	13
	Tegulæ with black cilia.	26

13 Antennæ black, at the utmost the first joint almost yellowish-red. 14
Antennæ, altogether or at least their larger portion, yellowish-red. 24

14 Fore coxæ dark at the base, beyond the middle. 11 **longimanus** *Lw.*
Fore coxæ pale. 15

15 Tip of the hind tibiæ distinctly black. 16
Tip of the hind tibiæ not, or very slightly infuscated. 17

16 Fore tarsi only ferruginous-brownish. 12 **brevimanus** *Lw.*
Fore tarsi blackened from the tip of the first joint. 13 **socius** *Lw.*

17 Hind tarsi entirely black. 18
Basis of the hind tarsi to a considerable extent pale. 22

18 Hind femora of the male not ciliated. 14 **nudus** *Lw.*
Hind femora of the male ciliated. 19

19 The enlarged last joint of the fore tarsi of the male on the outside with a white reflection. 45 **palæstricus** *Lw.*
The enlarged last joint of the fore tarsi of the male on the outside without a white reflection. 20

20 Hind femora of the male very densely ciliated. 16 **splendidus** *Lw.*
Hind femora of the male sparsely ciliated. 21

21 Hind tibiæ not infuscated at the tip; the fourth joint of the fore tarsi of the male somewhat broader than the preceding. 44 **splendidulus** *Lw.*
Hind tibiæ somewhat infuscated at the tip; the 4th joint of the fore tarsi of the male not broader than the preceding. 15 **subciliatus** *Lw.*

22 Only the last joint of the fore tarsi of the male enlarged. 17 **batillifer** *Lw.*
The two last joints of the fore tarsi of the male enlarged. 23

23 Hind femora of the male ciliated. 18 **eudactylus** *Lw.*
Hind femora of the male not ciliated. 19 **tonsus** *Lw.*

24 Last joint of the fore tarsi of the male enlarged. 20 **tener** *Lw.*
Fore tarsi of the male plain. 25

25 Wings hyaline with a grayish tinge. 21 **variabilis** *Lw.*
Wings hyaline with a yellowish tinge. 22 **luteipennis** *Lw.*

26 Fourth longitudinal vein broken. 27
Fourth longitudinal vein not broken. 31

27 Antennæ black. 23 **ramifer** *Lw.*
Antennæ yellowish red. 28

28 Fourth longitudinal vein broken twice at right angles. 24 **bifractus** *Lw.*
The lower angle of the fourth longitudinal vein sharp, the upper one rounded. 29

29 Tarsi of the male plain. 25 **vittatus** *Lw.*
Fore tarsi of the male enlarged at the tip. 30

30 Hind femora of the male ciliated. 26 **cuprinus** *Wied.*
Hind femora of the male not ciliated. 27 **longipennis** *Lw.*

31 Antennæ red, at the utmost the third joint at the tip, or its larger portion, blackened. 32
Antennæ black, at the utmost the first joint, in part, red. 39

32 Humeral callosity of the same color as the dorsum of the thorax. 33
Humeral callosity yellowish. 38

33 Arista of the antennæ of the male very much enlarged at the tip. 28 **hastatus** *Lw.*
Arista of the antennæ of the male plain. 34

34 Last joint of the fore tarsi of the male not enlarged. 35
Last joint of the fore tarsi of the male enlarged. 36

35 First joint of the middle tarsi of the male feathered. 29 **plumipes** *Scop.*
First joint of the middle tarsi of the male not feathered. 30 **fulvipes** *Lw.*

36 Last joint of the fore tarsi of the male with a lamelliform appendage. 31 **sexarticulatus** *Lw.*
Last joint of the fore tarsi of the male without lamelliform appendage. 37

37 Last joint of the fore tarsi of the male small. 32 **ruficornis** *Lw.*
Last joint of the fore tarsi of the male large. 40 **lobatus** *Lw.*

38 Fore tarsi of the male plain. 33 **scapularis** *Lw.*
Fore tarsi of the male enlarged at the tip. 34 **funditor** *Lw.*

39 Antennæ entirely black. 40
First joint of the antennæ partly red. 43

40 Hind femora not blackened at the tip. 41
Hind femora blackened at the tip. 42

41 Hind tibiæ not blackened at the tip. 35 **chrysostomus** *Lw.*
Hind tibiæ blackened at the tip. 46 **melanocerus** *Lw.*

42 Anterior femora without dark streaks on the under side. 37 **comatus** *Lw.*
Anterior femora with dark streaks on the under side. 36 **præustus** *Lw.*

43 First joint of the hind tarsi yellow, with the exception of the tip. 44
First joint of the hind tarsi entirely black. 45

44 Lamellæ of the hypopygium ochreous-yellow, not double. 38 **scoparius** *Lw.*
Lamellæ of the hypopygium ochreous yellow, double, that is, having an inner pair of flabs besides the outer ones. 47 **quadrilamellatus** *Lw.*

45 Tips of the hind tibiæ at the utmost somewhat blackened on the inside. 46
Tips of the hind tibiæ distinctly black. 47

46 The first joint of the antennæ red on the under side only. 39 **discifer** *Lw.*
The first joint of the antennæ red, with the exception of its upper side. 40 **lobatus** *Lw.*

47 Hind tibiæ of the male with bristles of unusual length. 41 **setosus** *Lw.*
Hind tibiæ of the male with bristles of ordinary length. 42 **incisuralis** *Lw.*

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43. D. dorycerus Loew. ♂.—Æneo-viridis, oculorum tegularumque ciliis nigris, primis duobus antennarum articulis, coxis anticis pedibusque saturate flavis.

♂. Setâ antennarum lamelliferâ, tarsorum anticorum articulis ultimis quatuor dilatatis, atris.

♀. . . . . .

Metallic green; cilia of the posterior orbit and of the tegulæ black; the first two joints of the antennæ, the fore coxæ and the feet saturate-yellow.

♂. Arista expanded into a lamella at the end, the last four joints of the fore tarsi enlarged, deep black.

♀. . . . . .

Long. corp. 0.26. Long. al. 0.26.

Syn. *Dolichopus dorycerus* Loew, Berl. Ent. Zeitschr. VIII, 93, 85.

Male. Bright, bronze-green, usually with extensive coppery-red reflections. Antennæ small; the first and second joints, which are very much obliterated, of a saturate-yellow color; the third joint, which is round, and the arista, black; the latter bears at its tip an elliptical black lamella. The face more ochre-brown than ochre-yellow; the cilia on the posterior orbit altogether black. Hypopygium black; the lamellæ of middling size, dingy white with a rather broad black margin, jagged on the edge and beset with black bristles, on the upper margin with black hairs. Fore coxæ with black hairs. Feet saturate-yellow; hind femora before the tip usually with two, sometimes with one bristle; the hind tibiæ have upon their hind side, before the middle, a small brown callus, and are blackened at the extreme tip on the inside. Fore tarsi about as long as the tibiæ; the first joint slender, stalk-like, considerably longer than the following four joints together, dark yellow, blackened only at the extreme tip; the following four joints velvet-black, strongly compressed from the sides; the three last ones are expanded on the upper side into long lobes, which are velvet-black on the third and fourth joints; on the fifth joint the lobe is black only at the base, otherwise whitish. Middle and hind tarsi, from the tip of the first joint, black. Wings grayish-hyaline with dark-brown veins, tinged with clayish-yellow in the costal, marginal, and submarginal cells, the costa only slightly incrassated at the tip of the first longitudinal vein; the tip of the third longitudinal vein strongly deflected backwards; the last segment of the fourth longitudinal vein not broken; the posterior margin of the wing has a deep sinus before the unusually protruding anal angle; the latter is again sinuated, so as to appear bilobed.

Hab. Glen-House, White Mountains, New Hampshire, July 2, 1863. (Osten-Sacken.)

44. D. splendidulus Loew. ♂.—Viridis, nitidus, coxis anticis pedibusque flavis, tibiis posticis totis concoloribus, antennis tarsisque posticis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, alarum venâ longitudinali quartâ non fractâ.

♂. Tarsis anticis elongatis, articulo quarto præcedentibus latiore, quinto compresso atro, femoribus posticis minus confertim flavo-ciliatis.

♀. . . . . .

Green, shining, fore coxæ and feet yellow; the hind tibiæ not blackened at the tip; antennæ and hind tarsi black; cilia of the inferior orbit and of the tegulæ yellowish.

♂. Fore tarsi elongated, fourth joint broader than the preceding; the fifth joint laterally compressed, black; hind femora ciliated with rather sparse yellowish hairs.

♀. . . . . .

Long. corp. 0.22. Long. al. 0.22–0.23.

Syn. *Dolichopus splendidulus* Loew, Berl. Ent. Zeitschr. VIII, 91, 82.

Male. Metallic green, bright, shining. Face rather bright-yellow. Antennæ altogether black; the third joint short-ovate. Front shining green. Cilia of the inferior orbit pale-yellowish. Lamellæ of the hypopygium broad, ovate, whitish; on the upper and the apical margins with a very narrow blackish border; apical margin jagged and beset with black bristles. The four hind coxæ are blackish, only at the extreme tip yellow. Fore coxæ yellow, somewhat blackened only at the extreme basis, beset with short black little hairs almost upon the whole front side. Feet yellow. The hind femora before the tip with a bristle, upon the greater part of the under side sparsely ciliated with rather long yellowish hairs. Hind tibiæ of ordinary strength, not infuscated at the tip, with a long glabrous streak upon the hind side. Fore tarsi abundantly one and a half the length of the tibiæ; the first four joints yellow, on the inside with a somewhat whitish reflection; stalk-shaped from the first to the third joint; the fourth joint laterally compressed, somewhat broader than the preceding, especially towards the tip; the first joint nearly as long as the three following together; the fifth joint black, compressed, broad, especially towards the tip, beset on the upper side with closely appressed little hairs. Middle tarsi blackened from the tip of the first joint. Hind tarsi altogether black. Cilia of the tegulæ whitish. Wings hyaline, somewhat grayish, of rather uniform breadth; the costa at the tip of the first longitudinal vein with a weak and very short swelling; the fourth longitudinal vein not broken.

Hab. White Mountains, New Hampshire, July, 1863. (Osten-Sacken.)

Observation.—This species has an extraordinary resemblance with *D. splendidus* on one side, and with *D. subciliatus* on the other. It differs from *D. splendidus*, with which it agrees more with regard to the structure of the fore tarsi, by the less densely ciliated hind femora, and by the smaller extent of the incrassation of the costa. *D. subciliatus* has longer and more slender fore tarsi, the fourth joint of which is as slender as the preceding; it has the hind tibiæ infuscated at the tip; the cilia of its hind femora are not only more scarce but also shorter, finally the swelling of the costa is more extended. Moreover, not only *D. splendidus*, but also *D. subciliatus* are considerably larger than *D. splendidulus*. This character will enable us to distinguish the female of *D. splendidulus* from that of *D. splendidus*, as well as from the female of *D. subciliatus*; the two latter, however, cannot be confounded on account of the different color of the hind tibiæ.

45. D. palæstricus Loew. ♂ and ♀.—Æneo-viridis, pedibus flavis, coxis anticis tibiisque posticis totis concoloribus, antennis tarsisque posticis nigris, ciliis oculorum inferioribus tegularumque ciliis flavicantibus, venâ alarum longitudinali quartâ non fractâ.

♂. Ultimo tarsorum anticorum articulo admodum dilatato, nigro, in latere externo albo-micante; femorum posticorum ciliis flavicantibus, non confertis.

♀. Pedibus simplicibus.

Metallic green; feet yellow; fore coxæ and the whole hind tibiæ of the same color; antennæ and hind tarsi black; cilia of the inferior orbit and of the tegulæ yellowish; the fourth longitudinal vein not broken.

♂. The last joint of the fore tarsi very much enlarged, black, on the outside with a white reflection; the yellowish cilia of the hind femora sparse.

♀. Feet plain.

Long. corp. 0.24. Long. al. 0.23.

Syn. *Dolichopus palæstricus* Loew, Berl. Entom. Zeitschr. VIII, 92, 84.

Metallic green, bright. Face of the male narrow, more pale ochre-yellowish than golden-yellow; the face of the female broader and paler. Antennæ entirely black; the third joint of the male ovate, that of the female shorter. Front green, bright. Cilia of the inferior orbit yellowish. Fore coxæ yellow, on the front side with a short black pubescence. The four posterior coxæ yellow only at the extreme tip. Hind femora with a bristle before the tip. Fore tarsi of the female and middle tarsi in both sexes blackened from the tip of the first joint. Hind tarsi black, excepting only the extreme basis, which is yellowish-brown. Cilia of the tegulæ yellowish. Wings grayish hyaline; fourth longitudinal vein not broken.

Male. Lamellæ of the hypopygium whitish, of moderate size and oval form; on the upper and apical margin they have a narrow black border, the latter is jagged and beset with black bristles. Hind femora sparsely ciliated with yellow hairs. Fore tarsi once and a half so long as the tibiæ; the first four joints yellow, with a white reflection on their sides, slender, stalk-like; the first joint as long as the three following together, the second abundantly one and a half so long as the third; the third somewhat broader than the preceding, especially toward its tip; the fourth considerably shorter and broader than the third; the fifth joint laterally compressed, very much enlarged, black, with a silky reflection; on the outside this reflection sometimes appears almost silvery. Hind tibiæ somewhat thickened; the two thirds of their hind side without any pubescence. The costa at the tip of the first longitudinal vein with a rather elongated swelling.

Hab. New Hampshire. (Osten-Sacken.)

Observation 1.—*D. palæstricus* is very much like *D. batillifer.* It differs from it in both sexes by the somewhat larger antennæ, and principally by the hind tarsi, which are black as far as the extreme basis; moreover the male has distinctly shorter fore tarsi and their first three joints are somewhat stouter; the cilia of the hind femora are more scarce; the hind tibiæ are less thickened, and the glabrous spot on their hind side is longer. The female may be distinguished from the somewhat uncertain female of *D. splendidus*, and from the as yet unknown female of *D. splendidulus* by the pubescence on the sides of the abdomen, which is, to a greater extent, of a pale color; from the female of *D. nudus* it differs by the under side of the first joint of the antennæ not being red.

Observation 2.—The discovery of the present species makes it necessary to mention, in the diagnosis of *D. batillifer*, the pale color of the first joint of the hind tarsi, and the very dense fringe of cilia on the hind femora of the male.

46. D. melanocerus Loew. ♂ and ♀.—Æneo-viridis, antennis nigris, inferioribus oculorum ciliis flavicantibus, ciliis tegularum nigris, coxis anticis pedibusque flavis, tarsis anterioribus inde ab articuli primi apice, tibiarum posticarum apice tarsisque posticis totis nigris.

♂. Facie subaureâ, tarsis simplicibus, femoribus posticis flavo-ciliatis.

♀. Facie albicante, femoribus posticis non ciliatis.

Metallic green; antennæ black; cilia of the inferior orbit yellowish; cilia of the tegulæ black; fore coxæ and feet yellow; the four anterior tarsi, from the tip of the first joint, the tip of the hind femora and the whole hind tarsi black.

♂. Face almost golden-yellow; hind femora with yellowish cilia.

♀. Face whitish; hind femora not ciliated.

Long. corp. 0.20. Long. al. 0.20.

Syn. *Dolichopus melanocerus* Loew, Berl. Ent. Zeitsch. VIII, 93, 86.

Male. Metallic green, bright. Front bright green. Antennæ entirely black, rather large; the third joint elongated-ovate, rather of equal breadth. Face rather narrow, golden-yellowish, but not shining. Cilia of the inferior orbit yellowish. Lamellæ of the hypopygium of medium size, ovate, whitish, with a narrow black border, jagged on the apical margin and beset with black bristles. Fore coxæ yellow, somewhat blackened at the extreme basis, and clothed on the front side with a black pubescence. Feet yellow; hind femora before the tip with a bristle, ciliated on the under side with scattered yellowish hairs. Hind tibiæ at the tip, to a considerable extent, black; on the hind side with a glabrous streak, which reaches from the basis up to the tip. Fore and middle tarsi blackened from the tip of the first joint; hind tarsi altogether black. Cilia of the tegulæ black. Wings with a rather dark-gray tinge, and with black veins; the costa has, at the tip of the first longitudinal vein, a very short knot-like swelling; the fourth longitudinal vein is not broken.

Female. The plastic characters, which distinguish the male are wanting here, otherwise it resembles the male very much. The antennæ are considerably shorter and their last joint is much smaller. The face is very much broader, grayish-white, with but little admixture of yellowish.

Hab. Canada. (Couper.)

Observation.—The male cannot be mistaken for any other species. The female differs from that of *D. comatus* by its more considerable size, darker wings, and the absence of a dark tip on the hind femora. It cannot be mistaken for the as yet unknown female of *D. chrysostomus*, on account of the extended black color of the tip of its hind tibiæ. All the other species, with the females of which it could be confounded, have the antennæ not entirely black.

47. D. quadrilamellatus Loew. ♂ and ♀.—Viridis, nitens, antennis nigris, margine infero articuli primi rufescente, facie albâ, inferioribus oculorum ciliis albidis, ciliis tegularum nigris, coxis anticis pedibusque flavis, tarsis posterioribus inde ab articuli primi apice nigris, alarum venâ longitudinali quartâ non fractâ.

♂. Duobus ultimis tarsorum anticorum articulis depressis, atris; lamellis hypopygii ochraceis, bilobis.

♀. Tarsis anticis inde ab articuli primi apice nigris.

Green, shining; antennæ black; the inferior margin of the first joint reddish; face white; the cilia of the inferior orbit whitish; cilia of the tegulæ black; fore coxæ and feet yellow, the four posterior tarsi from the tip of the first joint black; the fourth longitudinal vein not broken.

♂. The two last joints of the fore tarsi flattened, black; lamellæ of the hypopygium ochre-yellow, bilobed.

♀. Fore tarsi from the tip of the first joint black.

Long. corp. 0.27. Long. al. 0.26.

Syn. *Dolichopus quadrilamellatus* Loew, Berl. Ent. Zeitschr. VIII, 92, 83.

Male. Metallic green, shining. Front shining green. Antennæ only of middle size, black, the inferior edge of the first joint red, which, however, in some specimens, can be perceived only at a careful examination. The face rather broad for a male, whitish, on its uppermost part more yellowish-white. Cilia of the inferior orbit whitish. The lamellæ of the hypopygium are dark ochre-yellow and with two flabs, so that, at a superficial glance, the hypopygium appears to have four lamellæ; the longer flab has a narrow black-brown border, is not jagged at all, and beset with some delicate pale hairs. Fore coxæ yellow, a little blackened at the extreme basis only, on the front side with a fine and scattered blackish pubescence. The hind coxæ yellow at the extreme tip only. Feet yellow; the hind femora with a bristle before the tip. Fore tarsi not quite $1\frac{1}{2}$ as long as the tibiæ; their first three joints yellow, stalk-like, slender, rapidly decreasing in length; the first joint about as long as the three following together; the two last joints flattened, black and covered with black hair, so as to appear rather broad. The hind side of the hind tibiæ only with a very narrow glabrous streak in the shape of a line. Middle and hind tarsi from the tip of the first joint black. Cilia of the tegulæ black. Wings grayish-hyaline; the costa without visible swelling at the tip of the first longitudinal vein; the fourth longitudinal vein not broken.

Female. Very much resembling the male. Antennæ somewhat shorter. Face broader, whitish, not yellowish-white on its upper part. Fore tarsi from the tip of the first joint, blackened.

Hab. Palissades, New Jersey; in June. (Osten-Sacken.)

Observation.—The female will probably have to be distinguished from the still unknown female of *D. scoparius* by its larger size and the smaller extent of the black at the basis of the fore coxæ.

Gen. III. **GYMNOPTERNUS.**

Corrected Table for the determination of the Species.

1	Coloring non-metallic.	1 **flavus** *Lw.*
	Coloring metallic.	2
2	Third joint of the antennæ with an elongated point.	2 **subulatus** *Lw.*
	Third joint of the antennæ without elongated point.	3
3	Prevailing color of the feet black.	4
	Prevailing color of the feet yellow.	7
4	Third joint of the antennæ with a very distinct pubescence.	3 **scotias** *Lw.*
	Third joint of the antennæ with a scarcely visible pubescence.	5

5	Bright metallic green.	24 **pusillus** n. sp.
	Black-green.	6
6	Wings tinged with gray.	4 **barbatulus** *Lw.*
	Wing blackish.	5 **tristis** n. sp.
7	Tip of the hind femora blackish.	6 **exilis** *Lw.*
	Tip of the hind femora not blackish.	8
8	Thorax dark violet.	9
	Thorax not violet.	10
9	Fore coxæ as far as the tip, blackish.	7 **spectabilis** *Lw.*
	Fore coxæ yellowish.	8 **albiceps** *Lw.*
10	Antennæ entirely black.	11
	Antennæ entirely or partly red.	21
11	Fore coxæ at least at the basis distinctly blackened.	12
	Fore coxæ entirely yellow.	15
12	Lamellæ of the hypopygium black.	25 **chalcochrus**, nov. sp.
	Lamellæ of the hypopygium yellowish.	13
13	Last joint of the fore tarsi of the male somewhat enlarged.	9 **subdilatatus** *Lw.*
	Last joint of the fore tarsi of the male not enlarged at all.	14
14	Fore coxæ as far as the tip, blackened.	26 **coxalis** *Lw.*
	Fore coxæ blackened only at the basis.	27 **meniscus** *Lw.*
15	Lamellæ of the hypopygium black.	11 **frequens** *Lw.*
	Lamellæ of the hypopygium not black.	16
16	Hind tarsi entirely black.	28 **humilis**, nov. sp.
	Hind tarsi not entirely black.	17
17	Lamellæ of the hypopygium dark-yellow.	12 **lunifer** *Lw.*
	Lamellæ of the hypopygium whitish-yellow.	18
18	Internal appendages of the hypopygium penicillate.	13 **fimbriatus** *Lw.*
	Internal appendages of the hypopygium not penicillate.	19
19	Face yellow.	29 **exiguus**, nov. sp.
	Face whitish.	20
20	Third and fourth longitudinal veins strongly convergent towards their end.	14 **despicatus** *Lw.*
	Third and fourth longitudinal veins altogether parallel.	15 **difficilis** *Lw.*
21	Hind tarsi from the tip of the first joint black.	10 **lævigatus** *Lw.*
	Hind tarsi towards the tip a little darker, at the utmost brown, never black.	22
22	Middle and hind coxæ, from the basis, distinctly blackened.	23
	Middle and hind coxæ yellow, the former at the utmost somewhat grayish.	25

23 The lower part of the face, in the female, distinctly clothed with hair. 16 **nigribarbus** *Lw.*
The lower part of the face not hairy. 24

24 Antennæ small. 17 **parvicornis** *Lw.*
Antennæ rather large. 18 **opacus** *Lw.*

25 Venter and posterior margin of the pleuræ not yellow. 26
Venter and posterior margin of the pleuræ yellow. 27

26 Thorax shining, front white. 19 **politus** *Lw.*
Thorax rather dull, front gray. 20 **debilis** *Lw.*

27 Hypopygium very stout and large. 21 **crassicauda** *Lw.*
Hypopygium of ordinary thickness and size. 28

28 Antennæ very small. 22 **minutus** *Lw.*
Antennæ of middle size. 23 **ventralis** *Lw.*

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19. G. politus Loew. ♂ and ♀.

I have now obtained also the male of this species. The crescent-shaped lamellæ of the hypopygium are white-yellowish, their interior appendages not penicillate. The dorsum of the thorax is not quite so bright as that of the female, which otherwise it resembles very much.

24. G. pusillus, nov. sp. ♀.—Læte viridis, nitens, facie albâ, coxis præter apicem femoribusque nigris.

Bright green; face white; coxæ, with the exception of the tip and the femora, black.

Long. corp. 0.10. Long. al. 0.11.

Bright metallic-green, by no means black-green, shining. Front with a not very conspicuous gray-whitish dust. Antennæ black; the third joint not very small, with an almost imperceptible pubescence. Coxæ black, their second joint yellowish. Femora black, the tip of the four anterior ones to a considerable extent yellowish. Tibiæ yellow. Tarsi at the basis yellow, from the tip of the first joint blackened. (The hind tarsi are wanting.) Wings with a brownish-gray tinge.

Hab. Illinois. (Le Baron.)

Observation.—A single female of this species is in my possession for some time; but the rather imperfect condition of this specimen, and the hope of obtaining better ones, induced me to delay the publication of this species. As my hope has not been fulfilled, I furnish its description now. It is easily distinguished from all other species with black feet, by its smaller size, and by its color, which is not black-green, but pure green.

25. G. chalcochrus, nov. sp. ♂ and ♀.—Æneo-viridis, nitens, antennis nigris, pedibus flavis, coxis omnibus, præter apicem, lamellisque hypopygii nigris.

Metallic green, shining; antennæ black; feet yellow, all the coxæ with the exception of the tip and the lamellæ of the hypopygium black.

Long. corp. 0.15—0.16. Long. al. 0.15—0.16.

Metallic green, shining. Antennæ entirely black; the third joint short, with a not easily perceptible pubescence. Front covered with white dust. Face of the ♂ ochre-yellow, sometimes rather brownish-yellow, that of the ♀ grayish-white; cilia of the inferior orbit black. Upper side of the thorax covered with gray or brown-gray dust, which is distinctly visible, when the upper side of the thorax is looked at in an oblique direction. Fore coxæ blackened as far as the middle or nearly as far as the tip; the four hind coxæ yellow only at the tip. Feet yellow; tarsi from the tip of the first joint strongly colored with brown or blackened, the crescent-shaped lamellæ of the hypopygium black. Wings tinged with blackish-gray and with brownish-black veins.

Hab. District of Columbia; New York. (Osten-Sacken.)

Observation.—The female has, in the plastic characters, much in common with the female of *G. spectabilis*, of which I have now three specimens; but the latter is somewhat larger, and the third and fourth longitudinal veins of the wings seem to be somewhat closer to each other; I cannot, therefore, believe that *G. spectabilis* is only a variety in color of *G. chalcochrus*, and hope that my view will be sustained through the discovery of the still unknown male of *G. spectabilis*.

26. G. coxalis Loew. ♂.—Æneo-viridis, nitens, antennis nigris, coxis omnibus præter apicem nigris, pedibus lamellisque hypopygii flavis, articulo ultimo tarsorum anticorum maris non dilatato.

Metallic green, shining; antennæ black; all coxæ, with the exception of the tip, black; the feet and the lamellæ of the hypopygium yellow; the last joint of the fore tarsi of the male not enlarged.

Long. corp. 0.14. Long. al. 0.14—0.15.

Syn. *Gymnopternus coxalis* Loew, Berl. Ent. Zeitschr. VIII, 94, 87.

Metallic green, shining. Front with whitish dust. The antennæ altogether black; their third joint ovate; the face somewhat broader than in the males of most of the other species, and white. All the coxæ black, only the extreme tip yellow. Feet yellow; the four anterior tarsi, from the tip of the first joint, blackened; the hindmost black, with the exception of the basal half of the first joint; the last joint of the fore tarsi not enlarged.

Hab. New York. (Osten-Sacken.)

Observation.—I dare not positively decide whether a male, which Mr. Le Baron caught in Illinois, belongs to this species or not. It differs from the above described typical males in a remarkable degree, as it has the first two-thirds of the fore femora and the upper side of the hind femora infuscated, and the hind tarsi, with the exception of the extreme basis of the first joint, of a black color; moreover, the third joint of the antennæ is a little shorter. I would not venture to establish a separate species upon this single specimen.

27. G. meniscus Loew. ♂ and ♀.—Æneo-viridis, nitens, antennis nigris, coxis anticis præter basim, pedibus lamellisque hypopygii flavis.

Metallic green, shining; antennæ black; fore coxæ, with the exception of the basis, feet, and lamellæ of the hypopygium, yellow.

Long. corp. 0.15. Long. al. 0.15.

Syn. *Gymnopternus meniscus* Loew, Berl. Ent. Zeitschr. VIII, 94, 88.

Resembles the *G. coxalis* very much, but is somewhat larger and more of a bronze color. Fore coxæ black always only at the basis; the third joint of the antennæ a little shorter and broader, all the rest like the preceding.

Hab. District of Columbia. (Osten-Sacken.)

28. G. humilis, nov. sp. ♂ and ♀.—Æneo-viridis, nitens, antennis nigris, facie albâ, coxis anticis totis, pedibus lamellisque hypopygii flavis, tibiarum posticarum apice infuscato, tarsis posticis totis nigris.

Metallic green, shining; the antennæ black; face white; the whole fore coxæ, the feet, and the lamellæ of the hypopygium yellow; the tip of the hind tibiæ infuscated; hind tarsi entirely black.

Long. corp. 0.12. Long. al. 0.12.

Metallic green, shining. Front covered with white dust. The antennæ altogether black. The narrow face of the male white, the very broad face of the female whitish. The crescent-shaped lamellæ of the hypopygium yellow, sometimes almost dark-yellow. Fore coxæ altogether yellow; middle coxæ on the whole outside, hind coxæ at least on a part of it, blackish. Feet yellow; the hind tibiæ of the female are indistinctly infuscated at the tip; those of the male are distinctly infuscated or even blackened, especially upon their inner side. The hind tarsi are entirely black. Wings tinged with blackish-gray.

Hab. New York (Osten-Sacken); Illinois (Le Baron).

29. G. exiguus, nov. sp. ♂.—Æneus, nitens, antennis nigris, faciê ochraceâ, coxis anticis totis, pedibus lamellisque hypopygii flavis.

Bronze-colored, shining; antennæ black; face ochre-yellow; the whole fore coxæ, the feet, and the lamellæ of the hypopygium yellow.

Long. corp. 0.12. Long. al. 0.12.

More bronze-colored than metallic green, shining. Front covered with a gray-whitish dust. Antennæ altogether black, the narrow face brownish ochre-yellow. The crescent-shaped lamellæ of the hypopygium yellowish. Fore coxæ entirely yellow; also the four posterior coxæ mostly yellow, but the whole outside of the middle coxæ and a considerable portion of the outside of the hind coxæ blackish. Feet yellow; the tarsi, with the exception of the basis, strongly infuscated. Wings gray.

Hab. Illinois. (Le Baron.)

Gen. V. PELASTONEURUS.

Corrected Table for determining the Species.

1	Cilia of the inferior orbit black.	2
	Cilia of the inferior orbit whitish.	6
2	A bright white, glittering spot on the posterior margin of the thorax.	1 **longicauda** *Loew.*
	No such white spot on the posterior margin of the thorax.	3
3	Wings blackened.	2 **lugubris** *Loew.*
	Wings tinged with blackish-gray.	4
4	Fore coxæ altogether yellow; lamellæ of the hypopygium long.	3 **lætus** *Loew.*
	Fore coxæ not altogether yellow; lamellæ of the hypopygium short.	5
5	Only the basis of the fore coxæ blackened.	6 **lamellatus** *Loew.*
	The whole fore coxæ blackened.	7 **abbreviatus** *Loew.*
6	Fore coxæ blackened at the basis.	4 **vagans** *Loew.*
	Fore coxæ entirely yellow.	7
7	Dorsum of the thorax of a uniform color.	5 **cognatus** *Loew.*
	Dorsum of the thorax copper-colored, with blue-green stripes.	8 **alternans** *Loew.*

6. P. lamellatus Loew. ♂.—Obscure viridi-æneus, posticâ thoracis parte et scutello violaceis, setâ antennarum pilis longioribus plumatâ, ciliis oculorum inferioribus nigris, pedibus flavis, coxis anticis concoloribus, basim versus nigris, lamellis hypopygii brevibus, nigris.

Dark bronze-green, the hind part of the thorax and the scutellum violet; arista feathered with rather long hairs; cilia of the inferior orbit black; feet and fore coxæ yellow, the latter black at the basis; the short lamellæ of the hypopygium black.

Long. corp. 0.12. Long. al. 0.12.

Syn. *Pelastoneurus lamellatus* Loew, Berl. Entom. Zeitsch. VIII, 95, 90.

Dark green, bronze-colored, the larger portion of the posterior part of the dorsum of the thorax and the scutellum violet. Front dark violet, shining. Antennæ dusky red, most of the third joint black-brown. The feathery pubescence of the arista rather long. Face with a white reflection. Cilia of the inferior orbit black. The impression on the lateral end of the transverse suture of the thorax with a bright white reflection. The lamellæ of the hypopygium short, rather crescent-shaped, black and covered with black hair. Fore coxæ yellow, blackened from the basis up to the middle. Feet yellow; the extreme tip of the hind femora black. Middle tibiæ at the extreme tip, hind tibiæ at the extreme basis and tip, brown or black-brown; fore tarsi, towards the end, strongly infuscated; the four posterior tarsi, with the exception of the basis, brownish-black. Tegulæ whitish, with black cilia. Wings tinged with blackish-gray; the space between the third and fourth longitudinal veins comparatively broad.

Hab. New York. (Osten-Sacken.)

7. P. abbreviatus Loew. ♂ and ♀.—Obscure viridi-æneus, setâ antennarum breviter plumatâ, ciliis oculorum inferioribus nigris, pedibus ex testaceo flavis, femoribus anterioribus basim versus interdum infuscatis, coxis omnibus nigris, lamellis hypopygii brevibus, nigris.

Dark-green, bronze-colored; arista feathered with short hairs; cilia of the inferior orbit black; feet brownish-yellow; the anterior femora towards the basis sometimes infuscated; all the coxæ blackish; the short lamellæ of the hypopygium black.

Long. corp. 0.13. Long. al. 0.13.

Syn. *Pelastoneurus abbreviatus* Loew, Berl. Entom. Zeitschr. VIII, 94, 89.

Dark green, bronze-colored. Front dark steel-blue. Antennæ rather dull red; third joint mostly black-brown. Arista of the antennæ feathered with very short hairs. The face of the male with a white reflection, that of the female dark-gray, covered with whitish dust only at the top and on the lateral margin. Cilia of the inferior orbit black. Upper side of the thorax somewhat covered with brown dust, more shining towards the posterior margin; the impression on the lateral end of the transverse suture with a white reflection. Scutellum steel-blue. Lamellæ of the hypopygium short, crescent-shaped, black, and covered with black hair. All the coxæ blackish. Feet yellow, or brownish-yellow; the tip of the hind femora black; the fore femora are often infuscated to a considerable extent towards the basis; the middle femora also sometimes show, towards the basis, a distinct infuscation; the extreme tip of the middle tibiæ, as also the basis and the tip of the hind tibiæ are usually also somewhat infuscated. Fore tarsi, towards the tip, strongly infuscated; middle and hind tarsi, with the exception of the basis, black-brown. Tegulæ yellowish with black cilia. Wings tinged with blackish-gray; the space between the third and fourth longitudinal veins rather narrow.

Hab. New Rochelle, N. Y., in June. (Osten-Sacken.)

8. P. alternans Loew. ♀.—Obscure viridis, vittis thoracis alternantibus æneo-cupreis et ex cæruleo viridibus, setâ antennarum brevissime subplumatâ, ciliis oculorum inferioribus albidis, coxis anticis pedibusque flavis.

Dark green; the thorax alternately with dark copper-red and blue-green longitudinal stripes; arista feathered with very short hairs; cilia of the inferior orbit whitish; fore coxæ and feet yellow.

Long. corp. 0.13. Long. al. 0.13.

Syn. *Pelastoneurus alternans* Loew, Berl. Ent. Zeitschr. VIII, 95, 91.

Dark bronze-green; thorax with alternately blue-green and dark copper-colored longitudinal stripes. Front steel-blue. Antennæ red, most of the third joint black-brown; the arista feathered with very short hairs. Face narrower than in the females of other species, dark gray. Cilia of the inferior orbit whitish. Scutellum blue-green, almost steel-blue. The impression on the lateral margin of the thorax has a bright white reflection. The whole fore coxæ and the feet yellow; hind femora scarcely somewhat blackened at the extreme tip; the tarsi from the tip of the first joint black. Tegulæ white-yellowish, with black cilia. Wings tinged with blackish-gray.

Hab. New Rochelle, N. Y. (Osten-Sacken.)

Gen. XX. PORPHYROPS.

5. P. longipes Loew. ♂.—Viridis, facie albâ, coxis ex viridi nigris, pedibus anterioribus flavis, ultimis tarsorum articulis nigris, pedibus posticis nigris, femorum basi tibiisque supra (basi tamen exceptâ) testaceis, apice harum tarsisque fuscis, exterioribus hypopygii appendicibus filiformibus, bipartitis.

Green; face white; coxæ black-green; the four anterior feet yellow, the last joints of the tarsi black; the basis of the femora and the upper side of the tibiæ, with the exception of the tip, brownish-yellow, the tip of the tibiæ and the tarsi brown; the exterior appendages of the hypopygium linear, bipartite.

Long. corp. 0.26. Long. al. 0.21.

Syn. *Porphyrops longipes* Loew, Berl. Ent. Zeitschr. VIII, 95, 92.

Dark green, shining; thorax with two narrow approximated dark streaks. Front covered with white dust. Antennæ black; the third joint lanceolate; the arista a little shorter than the antennæ. The narrow face white. The lower part of the occiput clothed with dense yellowish hair. Abdomen above with black, on the sides with yellowish-white hairs. The exterior appendages of the hypopygium dusky yellowish, linear, bipartite, and beset with delicate whitish hairs. Fore feet yellow; the two last joints of the tarsi black; the tip of the preceding joint black-brown; the fore femora upon the latter part of the upper side, blackened; the tip of the first joint of the fore tarsi incrassated, almost dentiform on the under side. Hind femora black with brownish-yellow basis. Hind tibiæ and hind tarsi comparatively stout; the tibiæ black, on the upper side, with the exception of the tip, brownish-yellow or yellow, the tip brown; the tarsi brown, their tips black. All the feet longer than in most of the other species of *Porphyrops*. All the coxæ greenish-black with a pale pubescence; the middle ones, at their tips, with black, approximated bristles, forming a tuft, not unlike a thorn. Tegulæ yellowish, with whitish cilia. Wings tinged with brownish-gray and with blackish-brown veins; the end of the third longitudinal vein gently curved downwards; the last segment of the fourth longitudinal vein inflected.

Hab. White Mountains, New Hampshire. (Osten-Sacken.)

EXPLANATION OF THE PLATES.

PLATE III.

1. **Hygroceleuthus** LATIPES *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, and *d.* wing ♂.

2. **Dolichopus** FUNDITOR *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, and *d.* wing ♀.

3. **Rhagoneurus** POLYCHROMUS *Lw.* ♂.
a. head ♂, *b.* antenna ♂, and *c.* wing ♀.

4. **Gymnopternus** LUNIFER *Lw.* ♂.
a. head ♂, and *b.* head ♀ of *Gymnopternus crassicauda* Lw.—*c.* antenna ♂ of *G. lunifer.*—*d.* antenna ♂ of *G. subulatus* Lw.—*e.* wing ♀ of *G. crassicauda.*

5. **Pelastoneurus** VAGANS *Lw.* ♂.
a. antenna ♂, *b.* head ♂, *c.* head ♀, and *d.* wing ♂.

6. **Tachytrechus** VORAX *Lw.* ♂.
a. head ♂ of *T. vorax.*—*b.* head ♂ of *T. moechus* Lw.—*c.* antenna ♂ of *T. vorax.*—*d.* antenna ♂ of *T. moechus.*—*e.* wing ♀ of *T. vorax.*

7. **Paraclius** ALBONOTATUS *Lw.* ♂.
a. head ♀, *b.* antenna ♀, and *c.* wing ♀ of *P. arcuatus* Lw.

8. **Orthochile** SOCCATA *Lw.* ♂.
a. and *b.* head ♂, *c.* antenna ♂, and *d.* wing ♂ of same.

9. **Hercostomus** UNICOLOR *Lw.* ♂.
a. antenna ♂, and *b.* wing of same.

PLATE IV.

10. **Sybistroma** NODICORNIS *Meig.* ♂.—
a. and *b.* head ♀, *c.* head ♂, *d.* antenna ♀, *e.* antenna ♂, and *f.* wing ♂ of the same.

11. Hypophyllus DISCIPES *Ahr.* ♂.
a. head ♀, *b.* antenna ♀, *c.* antenna ♂, and *d.* wing ♂ of the same.

12. Haltericerus EUCERUS *Lw.* ♂.
a. head ♂, *b.* antenna ♀, *c.* antenna ♂, and *d.* wing ♂ of the same.

13. Diostracus PRASINUS *Lw.* ♂.
a. antenna ♂, *b.* head ♂, *c.* head ♀, and *d.* wing ♂ of the same.

14. Anepsius FLAVIVENTRIS *Meig.* ♂.
a. head ♂, *b.* antenna ♂, and *c.* wing ♂ of the same.

15. Argyra ALBICANS *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, *d.* antenna ♀, and *e.* wing ♂ of the same.[1]

16. Syntormon METATHESIS *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂ from the outside, *d.* antenna ♀ from the inside, *e.* antenna ♂ inside, and *f.* wing ♂ of the same.[2]

17. Synarthrus PALMARIS *Lw.* ♂.
a. head ♀, and *b.* head ♂ of *S. pallipes* Fabr.—*c.* antenna ♂, and *d.* wing ♂ of *S. palmaris.*

18. Systenus SCHOLTZII *Lw.* ♂.
a. head ♂ of *S. bipartitus* Lw.—*b.* antenna ♂ of *S. Scholtzii.*—*d.* wing ♂ of *S. adpropinquans* Lw.

PLATE V.

19. Rhaphium LONGICORNE *Meig.* ♂.
a. head ♀, *b.* head ♂, *c.* head ♀, *d.* antenna ♂, and *e.* antenna ♀ of the same.—*f.* antenna ♀ of *R. lugubre.*—*g.* wing ♀ of *R. longicorne.*

20. Xiphandrium QUADRIFILATUM *Lw.* ♂.
a. head ♂, and *b.* head ♀ of *X. caliginosum* Meig.—*c.* antenna ♂ of *X. quadrifilatum.*—*d.* antenna ♂, *e.* antenna ♀, and *f.* wing ♀ of *X. caliginosum.*

21. Porphyrops MELAMPUS *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, *d.* antenna ♀, and *e.* wing ♂ of the same.

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[1] The antennal arista of the ♂ was made by the engraver a little too long, that of the ♀ a little too short.

[2] Owing to a mistake, which was discovered too late, the posterior transverse vein is wanting in fig. *f* in some of the impressions of this plate.

22. **Smiliotus** MARITIMÆ *Hal.* ♂.
a. antenna ♂ of *S. thinophilus* Lw.—*b.* antenna ♂, *c.* head ♂, *d.* head ♀, and *e.* wing ♂ of *S. maritimæ.*

23. **Aphrosylus** RAPTOR *Walk.* ♂.
a. antenna ♂, *b.* and *c.* head ♂, *d.* wing ♂ of the same.

24. **Thinophilus** FLAVIPALPIS *Zett.* ♂.
a. antenna ♂, *b.* head ♂, *c.* head ♀, *d.* wing ♀ of the same.

25. **Peodes** FORCIPATUS *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, *d.* wing ♂ of the same.

26. **Nematoproctus** DISTENDENS *Meig.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♂, *d.* wing ♂ of the same.

27. **Leucostola** CINGULATA *Lw.* ♂.
a. head ♂, *b.* antenna ♂, and *c.* wing ♂ of the same.

PLATE VI.

28. **Eutarsus** AULICUS *Meig.* ♂.
a. head ♂, *b.* antenna ♂, and *c.* wing ♂ of the same.

29. **Diaphorus** SPECTABILIS *Lw.* ♂.
a. head ♂, *b.* head ♀ of *D. sodalis* Lw.—*c.* head ♂, and *d.* antenna ♂ of *D. spectabilis.*—*e.* wing ♀ of *D. interruptus* Lw.

30. **Lyroneurus** CÆRULESCENS *Lw.* ♀.
a. head ♀, *b.* the same from the side, *c.* antenna ♀, *d.* wing ♀ of the same.

31. **Chrysotus** OBLIQUUS *Lw.* ♂.
a. head ♀, and *b.* head ♂ of *C. obliquus.*—*c.* head ♂ of *C. vividus* Lw.—*d.* antenna ♂ of *C. vividus.*—*e.* antenna ♂ of *C. obliquus* Lw.—*f.* antenna ♂ of *C. cornutus* Lw.—*g.* wing ♂ of *C. vividus.*

32. **Teuchophorus** MONACANTHUS *Lw.* ♂.
a. head ♂, *b.* antenna ♂, and *c.* wing ♂ of the same.

33. **Campsicnemus** CLAUDICANS *Lw.* ♂.
a. head ♂ of *C. claudicans.*—*b.* middle foot ♂ and antenna ♂ of *C. hirtipes* Lw.—*d.* antenna ♂ and wing ♀ of *C. claudicans.*

34. **Sympycnus** NODATUS *Lw.* ♂.
a. head ♂, *b.* head ♀, *c.* antenna ♀, *d.* antenna ♂ of *S. nodatus.*—*e.* wing ♂ of *S. tertianus* Lw.

35. **Liancalus** GENUALIS *Lw.* ♂.
a. antenna ♂, *b.* head ♀, *c.* head ♂, and *d.* wing ♀ of the same.

36. **Plagioneurus** UNIVITTATUS *Lw.* ♀.
a. head ♀, *b.* antenna ♀, and *c.* wing ♀ of the same.

PLATE VII.

37. Scellus AVIDUS *Lw.* ♂.

a. head ♂, *b.* antenna ♂, and *c.* wing ♂ of the same.

38. Hydrophorus INNOTATUS *Lw.* ♂.

a. antenna ♂, *b.* head ♀, *c.* wing ♂ of the same.

39. Medeterus DIADEMA *Linn.* ♂.

a. and *b.* head ♂, *c.* antenna ♂, and *d.* wing ♀ of the same.

40. Achalcus FLAVICOLLIS *Meig.* ♀.

a. and *b.* head ♀, *c.* wing ♀, and *d.* wing ♀ of the same.

41. Xanthochlorus HELVINUS *Lw.* ♂.

a. head ♂, *b.* antenna ♂, *c.* wing ♂ of *X. ornatus* Hal.

42. Chrysotimus PUSIO *Lw.* ♂.

a. head ♀, *b.* antenna ♂, *c.* wing ♂ of *C. molliculus* Fall.

43. Saucropus DIMIDIATUS *Lw.* ♂.

a. antenna ♀ from the outside, *b.* antenna ♂ from the inside, *c.* head ♀, *d.* head ♂, and *e.* wing ♂ of the same.

44. Psilopus FILIPES *Lw.* ♂.

a. head ♂ of *Ps. filipes.*—*b.* head ♂ of *Ps. scobinator* Lw.—*c.* head ♂ of *Ps. pallens* Wied.—*d.* antenna ♂ of *Ps. scintillans* Lw.—*e.* antenna ♂ of *Ps. pilosus* Lw.—*f.* antenna ♂ of *Ps. comatus* Lw.—*g.* antenna ♂ of an undescribed species from Ceylon, related to *Ps. globulifer* Wied.—*h.* wing ♂ of *Ps. psittacinus* Lw.—*i.* wing ♂ of *Ps. scobinator.*

REMARKS ON THE GENERIC CHARACTERS,

EXPLANATORY TO THE PLATES.

Although the present publication on North American *Dolichopodidæ* was based upon a considerable number of species, it can be safely assumed that these species do not represent all the Genera occurring in North America. I have, therefore, added the characters of even those genera of the family, representative species of which have not yet been found on that continent, and I hope that this addition will prove useful to those desirous of studying this family in detail. In order to facilitate the recognition of generic characters, five plates, drawn for this purpose, have been added to this volume. But as on these plates every genus is represented only by a single species, this might easily give rise to the mistake that specific marks belonging to that particular species are generic characters. In order to prevent this, I have deemed it advisable to append to the plates the following explanatory remarks on the generic characters, which should always be consulted in determining species.

The figures of the antennæ show that the first joint in No. 1—16 is distinctly provided with bristles on the upper side; in No. 17—44, on the contrary, it is glabrous. This distinguishes the two *principal divisions* of the Dolichopodidæ.

Among the species belonging to the **FIRST PRINCIPAL DIVISION** the genera numbered from 1 to 12[1] have a completely disengaged, elongated hypopygium; those numbered 14—16 a small, rounded, more or less imbedded one; in No. 15 the hypopygium is short and sessile, but not imbedded, so that this genus (Diostracus) forms a transition from one of these two *subdivisions* to the other, and may be included either in the first or in the second. I have given preference to the first arrangement, but have separated this genus from all the others of this subdivision on account of the very large size of the palpi of the male.

The other genera of the **First Sub-division** stand much nearer to each other in their organization; they may, however, be easily arranged into *two groups* according to the circumstance whether the first joint of the hind tarsi is provided with bristles on its upper side (No. 1—3), or is without such bristles (4—16). To the *first of these groups* belong: Hygroceleuthus (1), Dolichopus (2), and Rhagoneurus (3). The difference between

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[1] These numbers refer to the plates.

Hygroceleuthus and **Dolichopus** consists in the structure of the head, which is higher and narrower in Hygroceleuthus, especially in the males, and in the length of the face, which reaches farther down in Hygroceleuthus and gives to the head a different profile. The genus **Rhagoneurus** differs from Tachytrechus and Dolichopus by the feathered arista of the antennæ and the different structure of the male abdomen, which is a little compressed laterally, as also by the fracture of the last segment of the fourth longitudinal vein peculiar to it, and in which it is not equalled by any of those species of Dolichopus which have the last segment of the fourth longitudinal vein also fractured; in the structure of the head Rhagoneurus agrees with Dolichopus, in that of the hypopygium with Dolichopus and Tachytrechus.[1]

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[1] Mr. Rondani has established the genus Rhageneura on those European species of Dolichopus, the fourth longitudinal vein of which is broken. This genus cannot be retained in this sense for several reasons. 1. Because these species do not differ at all from the other species of the genus in the other parts of their organization. 2. Because the fracture of the fourth longitudinal vein of these species is very different in kind as well as in degree. 3. Because this fracture in some species is sometimes present, sometimes not. I have already stated above, on p. 19, that Dol. ziczac *Wied.* requires the establishment of a new genus. At that time I knew only this one species of the newly proposed genus, and considered therefore its establishment as premature. Since then I have become acquainted with several species, so that I feel prepared now to introduce this new genus, and take occasion at the same time to furnish a description of the typical species which I have figured. I propose for this new genus the name of Rhageneura, introduced by Rondani in a somewhat different sense, modifying it only in the more correct Rhagoneurus. The characters of this genus are: First joint of the antennæ with bristles on the upper side; the arista of the antennæ feathered or hairy; first joint of the hind tarsi with a bristle; fourth longitudinal vein twice broken at right angles, with a considerable stump of a vein at each angle of the fracture; abdomen of the male a little compressed laterally; hypopygium entirely disengaged, as in Dolichopus. The figured species is the following:—

Rhagoneurus *polychromus* nov. sp. ♂ and ♀.—Viridis, thorace violaceo-et cupreo-variegato, fronte violaceâ, antennis rufis, pedibus flavis, alis cinereis, venis transversis non infuscatis.

♂. Facie ochraceâ, hypopygii margine supero et apice flavis, lamellis parvis, albicantibus, tenuissime nigro-marginatis.

♀. Facie albidâ.

Green with violet and coppery spots on the thorax; front violet; antennæ red; feet yellow; wings gray; the transverse veins without a dark margin.

♂. Face ochraceous; upper margin and tip of the hypopygium yellow, the small lamellæ whitish, with a very narrow black margin.

The peculiar ornaments, which the figured males of Hygroceleuthus and Dolichopus possess, as well as the strong swelling of the costa before the tip of the first longitudinal vein in Hygroceleuthus are not generic, but merely specific characters which, moreover, do not belong to the females.

To the *second group* belong the genera Gymnopternus (4), Paraclius (7), Pelastoneurus (5), Tachytrechus (6), Orthochile (8), Hercostomus (9), Sybistroma (10), Hypophyllus (11), and Haltericerus (12). The genus **Gymnopternus**, if understood in the limited sense adopted above, differs from all the other genera of this group by the parallelism of the third and

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♀. Face whitish.

Long. corp. 0.17. Long. al. 0.17.

Shining metallic green. Front bright, violet-blue, antennæ yellowish-red; the pubescence on the upper side of the first joint rather short; the third joint rounded-ovate, however but little rounded at the end; shorter in the female than in the male, in both sexes blackened to a very small extent on the upper margin and at the extreme tip. The arista of the antennæ in both sexes with a considerable feathery pubescence. Face of the male not very narrow, ochre-brownish; the face of the female broad, whitish. Cilia of the inferior orbit yellowish. Upper side of the thorax with copper-colored spots and with violet-blue reflections; the former are more striking in the male than in the female, while the latter are visible either on the hind part of the dorsum of the thorax only, or spread on its middle more towards the front. Scutellum violet-blue with blue-green margins. Abdomen metallic green, often coppery upon most of the upper part, black at the incisures, covered on the sides with a rather strikingly white dust; the hypopygium rather small, its second segment yellow along the margin, which is turned towards the venter, and at the tip; its external lamellæ scarcely of middling size, yellowish-white, with a very narrow black margin, on the edge of the margin a little jagged and beset with crooked black bristles. Coxæ yellow; the foremost are beset, besides the usual black bristles, with short and fine black hairs; the outside of the middle coxæ is almost entirely covered by a large gray-black spot. Feet yellowish, even plain in the male; hind femora with a bristle before the tip; fore tarsi brownish-yellow, about as long as the tibiæ; middle and hind tarsi infuscated from about the tip of the first joint, brownish-black towards the end; the hind tibiæ of the male without glabrous spot on the hind side; the first joint of the hind tarsi in both sexes has only one or two strong bristles on the upper side. Tegulæ with black cilia. Wings tinged with dark gray with brownish-black veins; the last segment of the fourth longitudinal vein is interrupted twice at right angles, and has, at each interruption, a long stump of a vein, as the other species of this genus; transverse veins without any trace of dark margin; in the male the costa has a slight swelling immediately before the end of the first longitudinal vein.

Hab. Ceylon.

fourth longitudinal veins of the wings; it stands in rather close relation to the genus Dolichopus, which belongs to the first group, differs from it, however, not only by the want of bristles on the first joint of the hind tarsi, but also by the smaller size of its species, the shortness of the first joint of the antennæ, and usually by the more distinct pubescence of the arista; moreover the lamellæ of the hypopygium are usually smaller and not jagged at the end. The genus **Paraclius** is distinguished by a pectinate or subpectinate arista of the antennæ, by the face, narrowed below even in the female, and by the peculiar course of the fourth longitudinal vein, the end of which forms a curve with its concavity turned backwards. Closely related to Paraclius is **Pelastoneurus**; the distinction between both genera is easy, if attention is paid to the essentially different course of the fourth longitudinal vein, to the very much more broad face, which is also more convex upon its lower part, and to the not sessile but pedunculated hypopygium of the species of Pelastoneurus, which have the feathered arista of the antennæ in common with the species of Paraclius. The genus **Tachytrechus** is very easily recognized by the great length of the perpendicular diameter of the very hairy eyes, by the face, which is narrower towards the middle but broader towards the bottom, and reaches entirely as far as the inferior margin of the eyes; the palpi are also comparatively small in the female, and the fourth longitudinal vein has before the middle of its last segment a gentle flexure, from which it converges towards the third longitudinal vein; the figures of the antennæ of the male of T. moechus, which remind of the structure of the antennæ of Haltericerus, are an exception to the rule; however a similar structure occurs by way of exception in the genus Dolichopus. The genus **Orthochile** is so much distinguished by the structure of the proboscis and of the palpi as also by the distance of the tips of the third and fourth longitudinal veins from the tip of the wing, that it cannot be mistaken for any other genus. The genus **Hercostomus**, to which is to be added a large portion of those species which in my previous works I have comprised in the genus Gymnopternus, embraces a variety of organizations and is evidently capable of a subdivision into several genera; in its whole structure it shows the greatest resemblance to Gymnopternus, but in all the species the third and fourth longitudinal veins, towards their ends, are rather strongly converging, while in the species of Gymnopternus they are either entirely parallel, or show but a very slight trace of convergency; the hypopygium has, in its structure, a great similarity with that of Dolichopus, but in some species the internal appendages are elongated, brushlike and hairy, like those of Hypophyllus and Haltericerus, which, however, is also the case with some few species of Gymnopternus. The genus **Sybistroma**, which hitherto remained confined only to a few species, is nearest to the genus Hercostomus, differs, however, by the scutellum which is much clothed with hair, by the peculiar structure of the face of the female which is much protruding below, and by the peculiar structure of the arista of the male. The species of **Hypophyllus** are easily distinguished by the slender structure of the whole body, by the length of their slender feet, by their pedunculated, usually yellow hypopygium, which is provided with narrow, linear external appendages and elongated, more or less penicillated, internal appendages, likewise by the always very prominent development of the first joint of the arista of the antennæ, which is different, however, in different species; the scutellum is glabrous and the lower part of the female face not protruding. The species of **Haltericerus** are more robust than the species of Hypophyllus; the face of the male is very narrow, that of the female very broad; the second joint of the antennæ in both sexes, especially in the males, is rudimentary, and the arista very elongated in the latter and enlarged at its tip into a lamella; the hypopygium, attached to a long peduncle, and its appendages, bear the greatest resemblance to those of the species of Hypophyllus.

To the above-named genera of the first group is appended **Diostracus** (13), as an anomalous genus. The very broad face in both sexes, the palpi, much larger in the male than in the female, the very small third joint of the antennæ, the incrassated fore femora, the rounded, but not imbedded hypopygium, with its very small appendages and the long narrow wings, with the posterior transverse vein very close to the margin—all these characters render this genus very easy to recognize.

To the **Second Sub-division**, which is distinguished by the small, more or less imbedded hypopygium, belong the following genera: Anepsius (14), Argyra (15), and Syntormon (16). In **Anepsius** the second joint of the antennæ has the usual transverse form, and the arista is inserted very close to its basis; the third joint of the antennæ shows a distinct pubescence; the first longitudinal vein is short, the fourth parallel with the third; the abdomen of the male is laterally compressed. The relationship between Anepsius and the genus Sympycnus, which belongs to the second principal division, cannot be mistaken, though the distinct pubescence of the first joint of the antennæ distinguishes it very easily from the other. The genus **Argyra** is distinguished by the transverse form of the second and the rather considerable size of the third joint of the antennæ, its subapical arista, the broad wings—particularly towards the basis, the length of the first longitudinal vein, its distance from the costa and the inflection of the fourth longitudinal vein; to these characters may be added, in most of the species, the delicate, but striking silvery white tomentum, spread over a large part of the body. Argyra is closely related to Leucostola, the first joint of the antennæ of which, however, is glabrous on the upper side. The genus **Syntormon** differs from all the other genera of the whole first principal division by the form of the second joint of the antennæ, which, on its inner side, overlaps the third joint in the shape of a thumb; the face of the male is narrow, that of the female broad and protruding below like a roof; the arista of the antennæ is completely or almost completely apical; the third longitudinal vein is parallel or almost so.

The **SECOND PRINCIPAL DIVISION** of the Dolichopodidæ is divided, according to the shape of the third joint of the antennæ, into *two sub-divisions;* the genera of the *first sub-division* (No. 17–23) have this joint, either in both sexes or at least in the male, pointed and provided with an apical arista; in the genera of the *second sub-division* (No. 24–44), it is short in both sexes, and if it should be somewhat elongated in the male, it is not pointed, and the arista is either dorsal, or, at the utmost, subapical.

The genera of the **First Sub-division** are divided into *two groups.* To the *first group* belong those genera, the posterior transverse vein of which is distant from the margin of the wing. They are the following: Synarthrus (17), Systenus (18), Rhaphium (19), Xiphandrium (20), Porphyrops (21), and Smiliotus (23). **Synarthrus** shares with Syntormon not only the peculiar structure of the second joint of the antennæ, but also the remaining characters, with the single exception of the first joint of the antennæ, which is glabrous. **Systenus** strikingly differs from all the other genera of the group by the pointed abdomen and the very pedunculated hypopygium of the male; to its distinguishing characters may also be reckoned the distinct pubescence of the third joint of the antennæ, and the remarkably sharp dividing line between the lower part of the face and the upper one. **Rhaphium** stands in close relation to the two following genera, is however distinguished from them by the very elongated antennæ, even in females, and by the still more considerable stoutness of the female proboscis; moreover from Xiphandrium it is distinguished by a less slender structure of the body, a much stronger pubescence, and a stronger flexure of the fourth longitudinal vein. The species of **Xiphandrium** have, like the species of Porphyrops, only in the males an elongated third joint of the antennæ, in the females it is short; their difference consists in a greater slenderness, less pubescence, and less flexure of the fourth longitudinal vein; moreover the largest species of Xiphandrium are scarcely equal in the length of their body to the smallest species of Porphyrops. The distinguishing characters of the genus **Porphyrops** become manifest from what has just been stated about the two preceding genera. The genus **Smiliotus** has the antennæ of equal size and form in both sexes; they have on the under side, from the tip almost to the base, a distinct excision; the face of the male is broad, and its palpi are as large as those of the female; finally, the abdomen shows externally one segment less than the related genera; the feet are comparatively short and rather vigorous; the small hypopygium is deeply imbedded and its appendages are often difficult to perceive.

To the *second group*, which is characterized by a close proximity of the transverse vein to the posterior margin of the wing, belongs the only genus **Aphrosylus** (23); the third joint of its antennæ is but little elongated, but pointed; the pendant palpi are larger in the male than in the female; the proboscis is bent towards the chest, the face is narrower above, and the eyes are excised near the antennæ; the feet have rough bristles, and the first joint of all the tarsi is much longer than the second.

Among all genera of the **Second Sub-division** Psilopus is distinguished by the slender structure of its body, and especially of its feet, its very broad and more or less excavated front, the smallness of its antennæ, and finally by its fourth longitudinal vein, which is provided with a posterior branch. I have assigned to it a position altogether at the end of the second sub-division, and will revert to it there. The other genera of this sub-division may be distributed into *two groups* according to the structure of the thorax. To the first group belong those genera, the upper side of the thorax of which is convex, as far as the scutellum (No. 24–39); to the second those, where the upper side of the thorax, before the scutellum, bears an inclined, more or less concave, area (No. 40–43).

The genera belonging to the first group, and possessing a sixth longitudinal vein, form the *first sub-group;* those where this vein is wanting, form the *second sub-group.*

The *first sub-group* contains either such genera as have the transverse vein not close to the posterior margin of the wing, or such where an approximation of that kind takes place in a striking manner. The genera, where there is no striking approximation of the posterior transverse vein to the margin of the wing, are: Thinophilus (24), Peodes (25), Nematoproctus (26), Leucostola (27), Eutarsus (28), Diaphorus (29), Lyroneurus (30), Chrysotus (31), Teuchophorus (32), Sympycnus (34), Campsicnemus (33), and Plagioneurus (36). **Thinophilus** has the small and but little imbedded hypopygium in common with Peodes (in all the other genera that belong here, it is much more imbedded); it differs from Peodes by the structure of the face, which, in both sexes, is broader below, and has an angular margin; by the large palpi of both sexes, and the very small size of the interior appendages of the hypopygium; the first two joints of the antennæ are small, the third somewhat in the shape of a lens, and the arista dorsal; the last segment of the fourth longitudinal vein, towards its end, is parallel, or almost so, to the third longitudinal vein; the feet of the male are usually variously adorned. The structure of the body of **Peodes** resembles in general that of Thinophilus; the structure of the antennæ and of the wings is also nearly the same, only the parallelism of the third and fourth longitudinal veins is still more complete than in most of the species of Thinophilus; both of the interior appendages of the hypopygium form a large horny forceps; the tarsi of the male of the only species hitherto known are plain. The species of **Nematoproctus**, in the whole structure of the body, are nearest the species of Porphyrops; they can be, however, easily distinguished from them by the rounded, and in both sexes small, third joint of the antennæ, and by the arista, which is inserted in the neighborhood of the basis. They are less closely related to the genus Leucostola, because the elongation of the first longitudinal vein, the broad shape of the wings, and the subapical position of the arista are wanting in them; the same characters and the glabrousness of the first joint of their antennæ distinguish them from the species of Argyra. The genus **Leucostola** stands to Argyra in the same relation as Synarthrus does to Syntormon, that is to say, it differs from it only by the first joint of the antennæ being without hairs; the considerable size of the third joint of the antennæ, the subapical position of the arista, the great breadth of the antennæ towards the basis, the considerable length of the first longitudinal vein and its great distance from the costa, are characters shared by Argyra; most of the species of Leucostola have also, like the species of Argyra, a delicate, almost silvery white tomentum, which covers a considerable portion of the body. **Eutarsus** is very near to Diaphorus; the difference is, that the former has the third joint of the antennæ somewhat larger and that the transverse vein is a little more removed from the posterior margin of the wing; moreover the face of the males of Eutarsus is narrower, the bristles of the imbedded hypopygium are less striking, the first joint of the hind tarsi is shorter, and the pulvilli of the fore tarsi are, although also enlarged, not so elongated as in Diaphorus. The genus **Diaphorus** is represented in North America by particularly varied forms; its distinction from Eutarsus has been explained above; from Lyroneurus it differs by the altogether different neuration of the wings, from Chrysotus by the greater slenderness of the whole body, and especially of the feet, and the comparatively longer and generally also proportionally narrower wings; moreover the structure of the head is different, as, while the eyes of the males of Diaphorus are either contiguous above the antennæ or at least are separated by an equally broad front, those of the males of Chrysotus are sometimes contiguous below, but never above the antennæ, and the front is always considerably widened above; this difference in the structure of the front exists also in the females of both genera; finally, the males of Diaphorus distinguish themselves by the remarkable prolongation of the fore tarsi or of the fore and hind tarsi, and by the particularly striking manner in which the small imbedded hypopygium is provided with bristles, which characters are not found in the species of Chrysotus; the neuration varies in the different species of Diaphorus in consequence of several modifications in the position of the posterior transverse vein; in no species, however, is this vein approximated to the posterior margin of the wing; the end of the last segment of the fourth longitudinal vein is sometimes cut off from the preceding part of it and pushed nearer to the anterior margin of the wing, so that both parts are either completely separated from each other or at least connected by an indistinct rudiment of a vein, as the illustration of the wing of Diaph. interruptus shows it. The genus **Lyroneurus** has a superficial resemblance to Diaphorus in the structure of the body, differs, however, strikingly by the large wings, with a more or less apparent greasy lustre, by the costa, which is usually thickened in both sexes, or at least in the male, to a very great extent; by the end of the third longitudinal vein being strongly turned backwards, and by the wide space between the fourth and the third longitudinal veins; the hypopygium is usually less provided with bristles than in the species of Diaphorus; the males of Lyroneurus, known to me, show no elongation of the pulvilli of the fore tarsi. The genus **Chrysotus** contains only small, mostly bright-green species, which cannot be mistaken for any other of the following genera, and which are sufficiently distinguished from Diaphorus by the already mentioned characters; the statements made above in regard to the shape of the front, the absence of bristles upon the hypopygium, and the absence of the elongation of the pulvilli on the fore tarsi of the male, will help to recognize whether a given species, unless its female alone is known, is to be reckoned to Chrysotus or to Diaphorus; as to the female, the structure of the front, the form of the wings, and the greater or smaller slenderness of the feet, have to guide us in its location. Striking is the very different form of the third joint of the antennæ of the different species of Chrysotus in North America. The species of **Teuchophorus** resemble more or less the smallest species of Chrysotus, are however very easily distinguished in the male sex by the somewhat laterally compressed abdomen, by the feet which are beset with single, scattered, strong bristles, and by the crooked and variously adorned hind tibiæ; moreover, in all the known males of Teuchophorus there is a large black swelling on the costa before the tip of the first longitudinal vein, which is altogether an exception in the genus Chrysotus. More attention is necessary in order to recognize the females of Teuchophorus; the best guide in this case is the steep position of the posterior transverse vein, the anterior end of which is nearer to the basis of the wing than the posterior end, and the comparatively small antennæ, the arista of which is somewhat less approximated to the apex than in most of the species of Chrysotus. The genus **Sympycnus** contains only small, mostly but little shining species, which are characterized by the smallness and the distinct pubescence of the third joint of the antennæ, the insertion of the arista in the vicinity of its basis, the laterally compressed abdomen of the males, the not elongated metathorax, and the wings being more or less narrowed towards the basis; they have the greatest analogy to the species of Anepsius, the first joint of the antennæ of which, however, is clothed with hair; from Campsicnemus they are distinguished by the not elongated metathorax, by the abdomen, which is longer and not flattened from above, and by the face, which is narrowed towards the bottom; the end of the fourth longitudinal vein converges somewhat, in the European species, towards the third longitudinal vein; in the North American species it is parallel with it or almost so. (The want of the small transverse vein, and of the sixth longitudinal vein, which occurs in a number of the impressions of Tab. VI, are merely mistakes of the engraver, which were discovered too late for correction.) **Campsicnemus** is distinguished by its face attenuated upwards, the distinctly elongated metathorax, and the short and, in both sexes, much flattened abdomen; the third joint of the antennæ is small, or rather small, and in most of the species somewhat pointed; the dorsal arista is inserted in rather close proximity to the basis; the fourth longitudinal vein is always parallel to the third, and runs before its middle over a distinct convexity of the wing. The males are usually distinguished by striking ornaments on their feet, especially on the middle feet. The species of **Plagioneurus** are altogether distinct on account of the very diagonal position of the posterior transverse vein; otherwise their neuration is very near to that of Pelastoneurus, while the glabrousness of the first joint of the antennæ renders it utterly impossible to mistake them for any species of the latter genus.

To the *second sub-group*, embracing those genera the transverse vein of which is strikingly approximated to the posterior margin of the wing, belong the following genera: Liancalus (35), Scellus (37), and Hydrophorus (38). **Liancalus** is easily distinguished from Scellus and Hydrophorus by all the femora being slender and unarmed. In the species of **Scellus** the fore-femora are beset on the under side with rather strong bristles, catching into a row of similar bristles of the fore tibiæ, and the third and fourth longitudinal veins are rather strongly convergent toward their ends, while the species of **Hydrophorus** have only on the under side of the fore-femora, towards the basis, a few elongated thorn-like bristles; the under side, however, not only of the fore-femora, but also of the fore tibiæ, is beset only with short bristles, and the third and fourth longitudinal veins are parallel towards their ends, or almost so.

To the next following genus, **Achalcus**, I have assigned this position on account of the general structure of its body, which led me to suppose the existence of a relationship between it and the following genera; I also presume, therefore, that the structure of the dorsum of the thorax, which I have not been able to ascertain positively in any of the few specimens belonging to me, will, when found out, justify the location I have assigned to the genus. In general the species of Achalcus may be easily distinguished, as the total absence of the sixth longitudinal vein is a character peculiar to them; the species hitherto made known are of a non-metallic color, and of a very small size.

The genera belonging to the *second group*, the thorax of which has on its posterior part a more or less concave, sloping surface, are the following: Medeterus (39), Chrysotimus (41), Xanthochlorus (42), and Saucropus (43). **Medeterus** differs essentially from the other three genera by the apical position of the arista, the very large size of the proboscis, and the totally disengaged hypopygium. The genera **Chrysotimus** and **Xanthochlorus** contain only small species, and are easily distinguished by their coloring, which is either entirely yellow, or in part yellow, in part metallic-green; Chrysotimus is easily distinguished from Xanthochlorus, by the subapical position of the arista and by the much smaller and imbedded hypopygium; with Xanthochlorus the position of the arista of the antennæ is dorsal, and the swollen and rather disengaged hypopygium is directed backward so as to assume the appearance of a prolongation of the abdomen of the male. The species of **Saucropus** are of a more considerable size than the species of Chrysotimus and Xanthochlorus, and their feet are comparatively longer; the second joint of the antennæ somewhat differs from the usual transverse form, as, on the inside, it reaches a little over the third joint; the arista is dorsal; the sixth longitudinal vein runs as far as the margin of the wing; the course of the last segment of the fourth longitudinal vein varies in the different species, nevertheless it always shows a distinct convergency towards the third longitudinal vein; the first joint of the hind tarsi is always considerably shorter than the second. The color of all the species is either entirely yellow, or reddish-yellow, or partly so.

The genus **Psilopus** (44), closing the series, has the last segment of the fourth longitudinal vein provided with a posterior branch; this character is not wanting in any of the American, European, or African species that are known to me; in some South Asiatic species, however, it is represented only by a fold of the wing, which sometimes is very indistinct. Besides, the species of Psilopus are very easily recognized by the slenderness of the whole body and especially of the feet, by the very broad, more or less excavated front, by the small antennæ, provided with a long, thin, dorsal or subapical, rarely almost entirely apical arista, and by the entirely disengaged hypopygium. In the living state they keep the wings divaricated, which gives them an entirely different aspect from all other genera. The males have their feet variously adorned, and in some species they are distinguished by a structure of the wings peculiar to them.

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Xanthochlorus helvinus *Lw.*, 224
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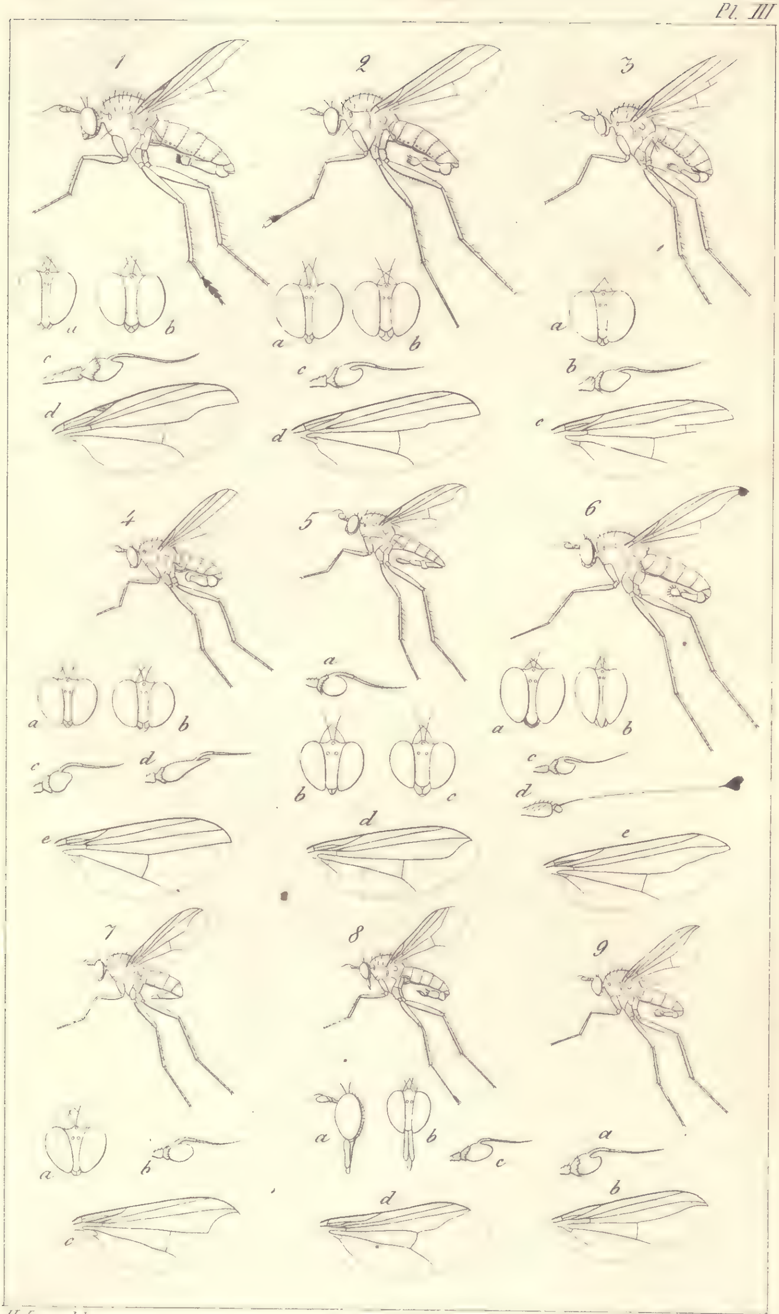
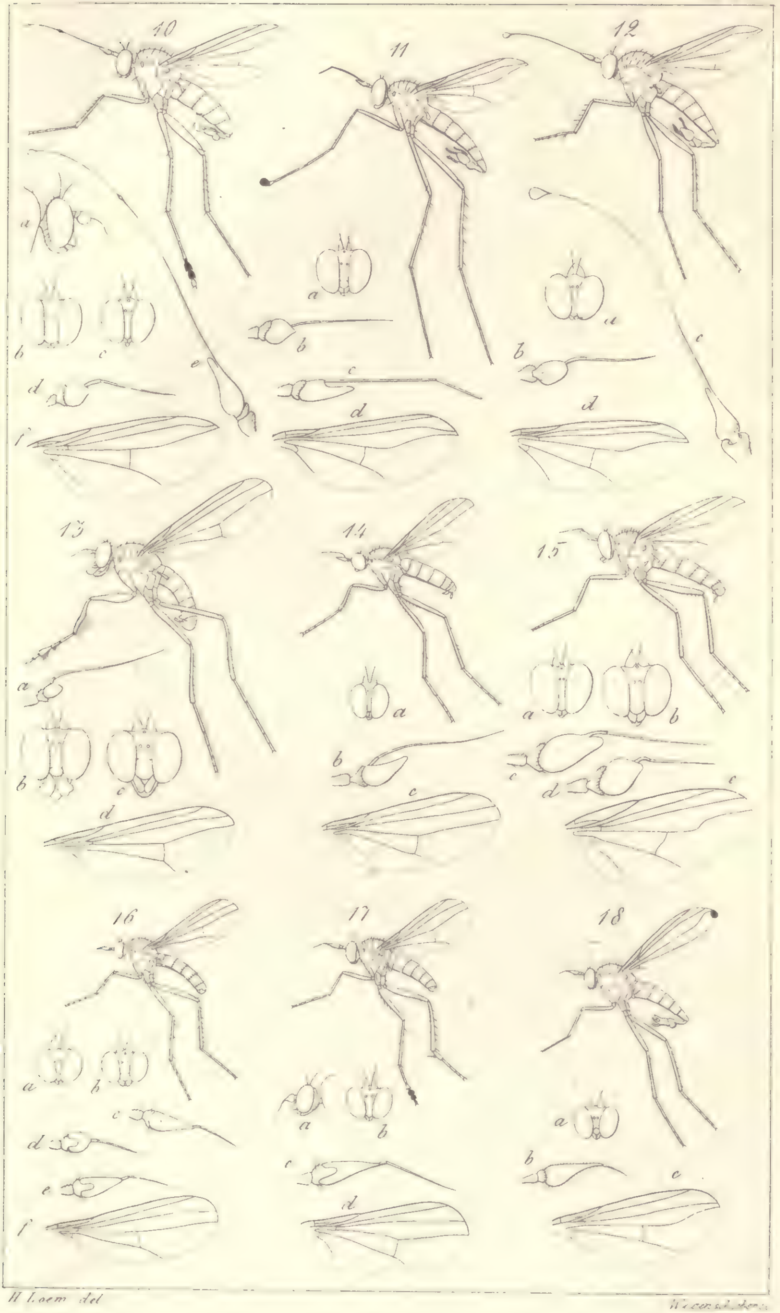
Pl. III



H. Loew del.

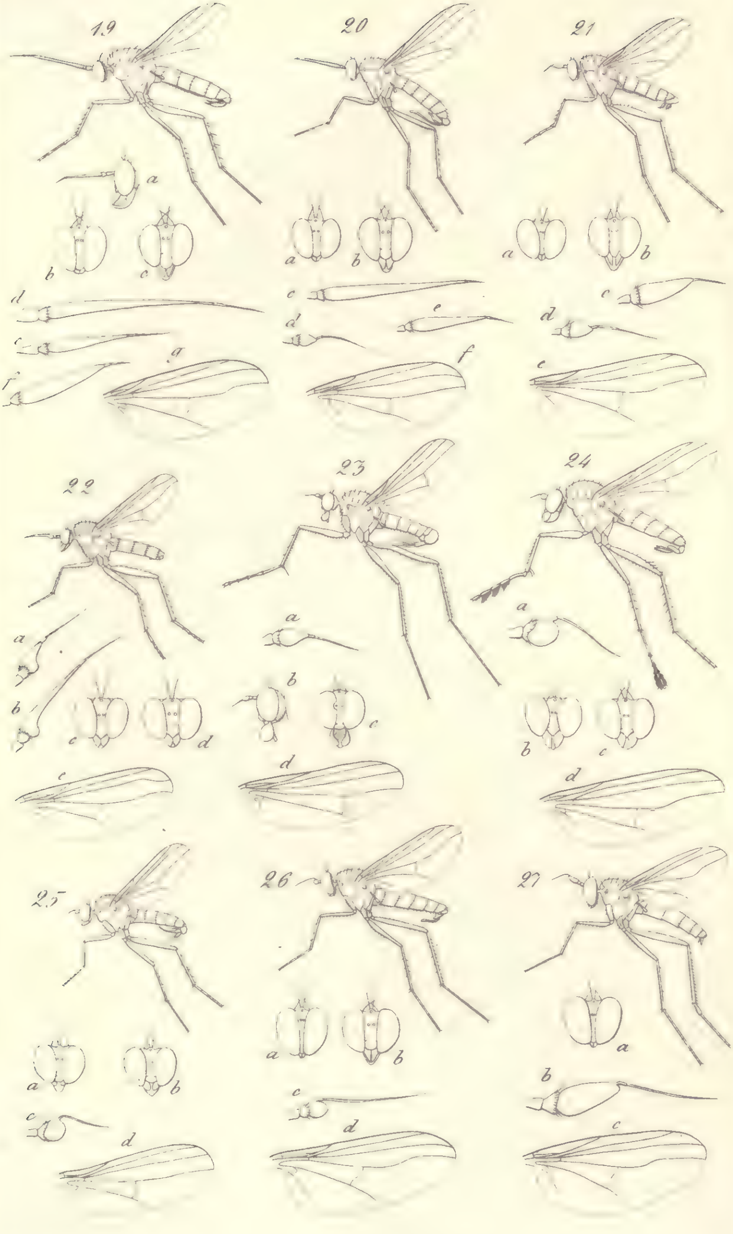
Wagenschuber sc.

Pl. IV.



H. Loew del.

[illegible]

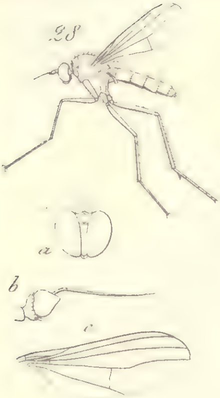


H. Loew del.

Wagenschieber sc.

Pl. VI.

28



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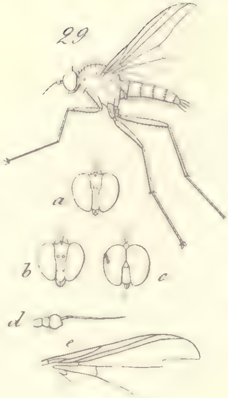

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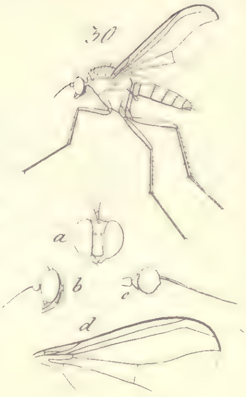

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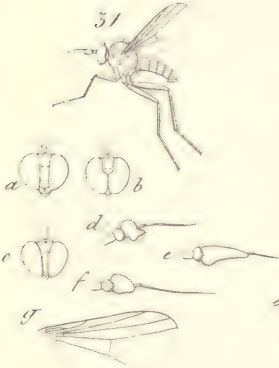

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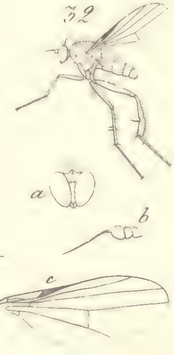

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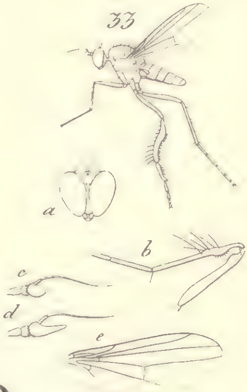

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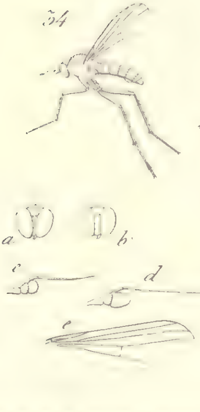

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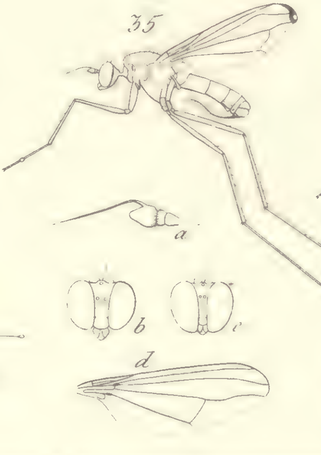

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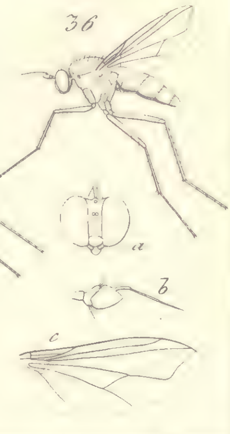
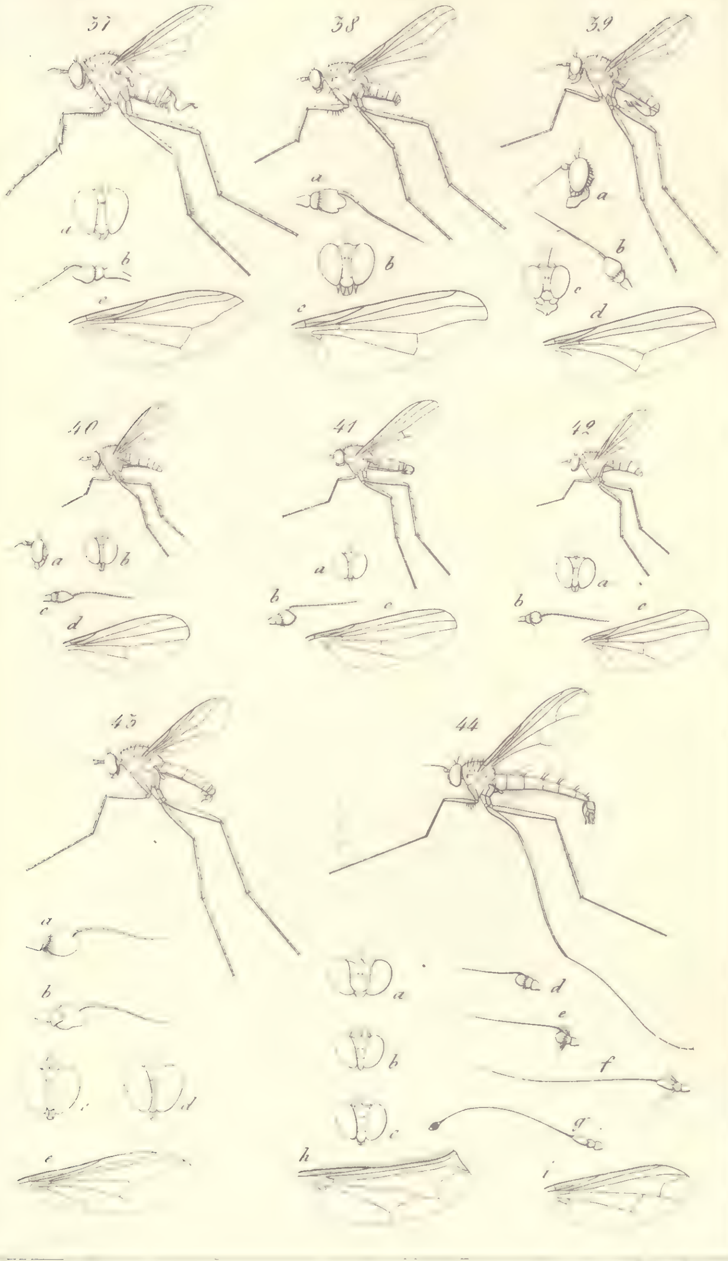


F. Loew del. Wagenschieber sc



H Loew del

Wagenschieber sc

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

140

LIST

OF THE

COLEOPTERA

OF

NORTH AMERICA.

PREPARED FOR THE SMITHSONIAN INSTITUTION.

BY

JOHN L. LECONTE, M.D.

PART I.

WASHINGTON:
SMITHSONIAN INSTITUTION:
MARCH, 1863.—APRIL, 1866.

ADVERTISEMENT.

A CATALOGUE of the described Coleoptera of the United States, prepared by Dr. F. E. Melsheimer, and revised by Prof. Haldeman and Dr. LeConte, was published by the Smithsonian Institution in 1853. This work furnished a reference to all the species described at the time, and known to the author or editors, but did not profess to indicate what were synonymes and what actual species.

Dr. LeConte has since had in view a new and improved catalogue, and by his own researches, and by reference to those of others, has endeavored to ascertain the proper synonymy of the North American Coleoptera, adding the new species described since the date of the Melsheimer Catalogue.

The portion of the New List, now published, includes all the families treated of in Part I of the Classification of the Coleoptera of North America, by Dr. LeConte, who will complete that work, with its companions, the "List," and the "Descriptions of New Species of North American Coleoptera," at the earliest practicable moment.

Pages 1—49 were published in March, 1863; pp. 50—70 in April, 1866.

JOSEPH HENRY,
Secretary S. I.

SMITHSONIAN INSTITUTION,
WASHINGTON, April, 1866.

PHILADELPHIA:
COLLINS, PRINTER.

NOTICE.

The present catalogue was commenced in 1861, and the portion now issued was, in great part, printed as early as June, 1862. The official duties of the author have since left him but little time for scientific research; but believing that the catalogue, even in its present incomplete condition, will be of service to students, he has considered it proper not to retard its appearance any longer. He trusts that at a future period he may be able to complete the work, and in the meantime, invites contributions from all those who have it in their power to aid him in his object of making a personal examination of all the accessible species of Coleoptera found within the limits of the United States, for the purpose of presenting an authentic synonymical catalogue.

The following marks are used in the catalogue: —— after a species indicates that it is unknown to the author, who is therefore not responsible for its value as a distinct species: ‖ signifies that the name has been previously employed for another species: ‡ denotes erroneous determinations: Greek letters are employed to distinguish forms which are considered as races of the preceding species.

JOHN L. LECONTE.

Jan., 1863.

LIST
OF
COLEOPTERA OF NORTH AMERICA.

CICINDELIDAE.

MANTICORINI.

Amblychila Say.

- **cylindriformis** *Say.*
  - picolominii *Reiche.*
  - Chaleposomus c. *Chaudoir.*

Omus Esch.

- **audouinii** *Reiche.*
- **californicus** *Esch.*
- **dejeanii** *Reiche.*

MEGACEPHALINI.

Tetracha West.

- **carolina** *Hope.*
  - Cicindela carolina *Linn.*
  - Megacephala c. *Dej.*
  - Meg. carolinensis *Latr.*
- **virginica** *Hope.*
  - Cicindela virginica *Linn.*
  - Megacephala virg. *Dej.*

CICINDELINI.

Cicindela Linn.

- **obsoleta** *Say.*
- α. **vulturina** *Lec.*
- β. **prasina** *Lec.*
- **unipunctata** *Fabr.*
- **longilabris** *Say.*
  - albilabris *Kirby.*
- **montana** *Lec.*
- **pulchra** *Say.*
- **lecontei** *Hald.*
- **rugifrons** *Dej.*
  - denticulata *Hentz.*
- α. **unicolor** *Dej.*
- β. **modesta** *Dej.*
  - obscura|| *Say.*
- **scutellaris** *Say.*
- **nigrocoerulea** *Lec.*
- **viatica** *Chevr.*
- **sexguttata** *Fabr.*
  - violacea *Fabr.*
- **patruela** *Dej.*
  - consentanea *Dej.*
- **decemnotata** *Say.*
- **splendida** *Hentz.*
- α. **limbalis** var. *Lec.*
- β. **limbalis** *Klug.*
  - marginalis var. *Dej.*
  - var. spreta *Lec.*
  - var. amoena *Lec.*
- γ. **splendida** *Hentz.*
  - sexguttata var. *Fabr.*
- **purpurea** *Oliv.*
  - marginalis *Fabr.*
  - var. audubonii *Lec.*
- **ancocisconensis** *Harris.*
- **venusta** *Lec.*
- **generosa** *Dej.*
  - ?obliquata‡ *Kirby.*
- **formosa** *Say.*
- **latesignata** *Lec.*
- **vulgaris** *Say.*
  - obliquata *Dej.*
  - tranquebarica *Herbst.*
- **fulgida** *Say.*
- **oregona** *Lec.*
- **guttifera** *Lec.*
- **duodecimguttata** *Dej.*
  - proteus *Kirby.*
- **repanda** *Dej.*
  - hirticollis‡ *Gould.*
  - baltimorensis‡ *Lec.*[1]
- **hirticollis** *Say.*
  - albohirta *Dej.*
  - unita *Kollar.*
  - gravida *Lec.*
- **hyperborea** *Lec.* **n. sp.**
- **tenuisignata** *Lec.*
- **imperfecta** *Lec.*
- **pusilla** *Say.*
- α. **terricola** *Say.*
- **cinctipennis** *Lec.*
- **cyanella** *Lec.*
- **dorsalis** *Say.*
  - signata *Dej.*
- α. **media** *Lec.*
- **saulcyi** *Guérin.*
  - venusta *Ferté.*
- **lacerata** *Chaudoir.*
- **marginata** *Fabr.*
  - variegata *Dej.*
- **limbata** *Say.* —
- **cuprascens** *Lec.*
- **blanda** *Dej.*
  - tarsalis *Lec.*
- **macra** *Lec.*
  - blanda‡ *Lec.*
- **sperata** *Lec.*
- **lepida** *Dej.*
- **serpens** *Lec.*
- α. **ascendens** *Lec.*
- **sigmoidea** *Lec.*
- **tortuosa** *Dej.*
  - trifasciata‡ *Klug.*
- **punctulata** *Fabr.*
  - var. micans *Fabr.*
- **texana** *Lec.*
  - decostigma‡ *Lec.*

---

[1] Dr. Schaum informs me that *C. baltimorensis* Herbst. is the East Indian *C. minuta* Fabr. with an erroneous locality.

- **hemorrhagica** *Lec.*
- **hentzii** *Dej.*
    - 'hæmorrhoidalis|| *Hentz.*
- **sedecempunctata** *Klug.*
    - rubriventris *Chevr.*
- **rufiventris** *Dej.*
- **cumatilis** *Lec.*
    - guexiana *Chevr.*
- **abdominalis** *Fabr.*
- **marginipennis** *Dej.*
- **severa** *Ferté.*
- **californica** *Ménétriés.*
- **circumpicta** *Ferté.*
    - johnsonii *Fitch.*
- **praetextata** *Lec.*
- **togata** *Ferté.*
- **gratiosa** *Guérin.*
- **lemniscata** *Lec.*
- **cursitans** *Lec.*
- **celeripes** *Lec.*
- **pilatei** *Lec.*[1]
    - Dromochorus pil. *Guérin.*

CARABIDAE.

CARABIDAE (genuini).

OMOPHRONINI.

Omophron Latr.

- **dentatum** *Lec.*
- **gilae** *Lec.*
- **tesselatum** *Say.*
    - lecontei *Dej.*
- **americanum** *Dej.*
    - sayi *Kirby.*
- **labiatum** *Say.*
    - Scolytus labiatus *Fabr.*
- **nitidum** *Lec.*

ELAPHRINI.

Elaphrus Fabr.

- **politus** *Lec.*
- **laevigatus** *Lec.*
- **olivaceus** *Lec.* n. sp.
- **cicatricosus** *Lec.*
- **clairvillei** *Kirby.*
    - ?fuliginosus *Say.*
    - ?americanus *Dej.*
- **obliteratus** *Mann.*
- **intermedius** *Kirby.*
- **californicus** *Mann.*
    - var. punctatissimus *Lec.*
    - var. sinuatus *Lec.*
    - var. gratiosus *Mann.*
    - var. similis *Lec.*
- **ruscarius** *Say.*
    - riparius‡ *Dej.*
- **obscurior** *Kirby.* —

Diachila Motsch.

- **subpolaris** *Lec.* n. sp.

Blethisa Bon.

- **quadricollis** *Hald.*
- **oregonensis** *Lec.*
- **julii** *Lec.* n. sp.

LORICERINI.

Loricera Latr.

- **pilicornis** *Latr.*
    - Carabus p. *Fabr.*
- **semipunctata** *Esch.*
- **californica** *Lec.* n. sp.
- **neoscotica** *Lec.* n. sp.
- **decempunctata** *Esch.*
- **foveata** *Lec.*
- **congesta** *Mann.* —

TRACHYPACHINI.

Trachypachys Mots.

- **inermis** *Motsch.*
    - holmbergi *Mann.*
- **gibbsii** *Lec.*

CARABINI.

Notiophilus Dumeril.

- **semiopacus** *Esch.*
- **sylvaticus** *Esch.*
- **nitens** *Lec.*
- **semistriatus** *Say.* (f.Lec.)
    - aquaticus‡ *Kirby.*
    - novemstriatus *Lec.*
- **confusus** *Lec.*
- **sibiricus** *Motsch.*
    - punctatus *Lec.*
    - semistriatus *Say.* (f. Harr.)
- **aeneus** *Lec.*
    - Elaphrus aeneus *Herbst.*
    - Not. porrectus *Say.*

Opisthius Kirby.

- **richardsonii** *Kirby.*

Nebria Latr.

- **pallipes** *Say.*
- **metallica** *Fisch.*
- **gebleri** *Dej.* —
- **rathvoni** *Lec.*
- **gregaria** *Esch.*
- **mannerheimii** *Esch.*
- **castanipes** *Lec.*
    - Helobia cast. *Kirby.*
    - ?N. eschscholtzii|| *Mén.*
- **diversa** *Lec.*
    - livida|| *Lec.*
- **hudsonica** *Lec.* n. sp.
- **nivalis** *Gyll.*
    - Carabus niv. *Paykull.*
- **moesta** *Lec.*
    - an sequentis gens?
- **sahlbergii** *Fisch.*
- **eschscholtzii** *Lec.*
    - Pelophila esch. *Mann.*
    - Pel. borealis var.‡ *Dej.*
- **rudis** *Lec.* n. sp.
- **bifaria** *Mann.*
    - carbonaria‡ *Mann.*
- **suturalis** *Lec.*

Leistus Fröhlich.

- **ferruginosus** *Mann.*
    - ferrugineus|| *Dej.*

Calosoma Fabr.

- **externum** *Say.*
    - longipenne *Dej.*
- **macrum** *Lec.*
- **protractum** *Lec.*
- **scrutator** *Fabr.*
- **willcoxi** *Lec.*
- **frigidum** *Lec.*
- **sayi** *Dej.*
- **prominens** *Lec.*
    - angulatum|| *Lec.*
- **carbonatum** *Lec.*
- **triste** *Lec.*
- **obsoletum** *Say.*
    - luxatum‡ *Dej.*
- **semilaeve** *Lec.*
- **calidum** *Fabr.*
    - var. lepidum *Lec.*
- **tepidum** *Lec.*
- **cancellatum** *Esch.*
    - var. aenescens *Lec.*

---

[1] The following species quoted by authors are not North American: *C venosa* Kollar = *nitida* Dej.: *C. obscura* Fabr. = *germanica* Linn.: *C. coerulea* || Herbst. = *germanica* Linn.: *C. triguttata* Herbst.

discors *Lec.*
moniliatum *Lec.*
laqueatum *Lec.*
wilkesii *Lec.*
luxatum *Say.*
α. **striatulum** *Lec.*
β. **zimmermanni** *Lec.*

Carabus Linn.

vietinghovii *Adams.*
californicus *Motsch.*
an rite Am. bor.?
limbatus *Say.*
goryi *Dej.*
serratus *Say.*
lineatopunctatus *Dej.*
lapilayi *Laporte.*
vinctus *Weber.*
interruptus *Say.*
ligatus‡ *Lec.*
α. **ligatus** *Germ.*
β. **carinatus** *Dej.*
finitimus *Hald.*
sylvosus *Say.*
♀ lherminieri *Dej.*
taedatus *Fabr.*
α. **baccivorus** *Fischer.*
β. **agassii** *Lec.*
γ. **oregonensis** *Lec.*
chamissonis *Fischer.*
brachyderus *Wiedem.*
groenlandicus *Dej.*
truncaticollis *Esch.*[1]
an rite Am. bor.?

Nomaretus Lec.

debilis *Lec.*
cavicollis *Lec.*
fissicollis *Lec.*
bilobus *Lec.*
Cychrus bilobus *Say.*
Sphaeroderus bil. *Dej.*
imperfectus *Horn.*

Cychrus Fabr.

§ SPHAERODERUS Dej.

nitidicollis (*Chev.*)
bicarinatus *Lec.*
lecontei (*Dej.*)
S. niagarensis *Lap.*
S. brevoorti *Lec.*
stenostomus *Weber.*

§ SCAPHINOTUS Dej.

unicolor *Oliv.*
elevatus *Fabr.*
S. flammeus *Hald.*
var. S. dilatatus *Lec.*
heros *Harris.*

§ IRICHROA Newman.

viduus *Dej.*
unicolor‡ *Herbst.*
var. leonardi *Harris.*
violaceus *Lec.* n. sp.
andrewsii *Harris.*

§ CYCHRUS Dej.

tuberculatus *Harris.*
velutinus *Mén.* —
angusticollis *Fischer.*
angulatus *Harris.* —
cristatus *Harris.* —
reticulatus *Motsch.* —
marginatus *Dej.*
striatus *Lec.*
crenatus *Motsch.*
interruptus *Mén.*
ventricosus‡ *Chaud.*
ventricosus *Dej.*
striatopunctatus *Chaud.*
constrictus *Lec.*
ventricosus‡ *Motsch.*
cordatus *Lec.*
alternatus *Motsch.*
ventricosus var.‡ *Esch.*
punctatus *Lec.*

METRIINI.

Metrius Esch.

contractus *Esch.*

PROMECOGNATHINI.

Promecognathus Chaud.

laevissimus *Chaud.*
Eripus laev. *Dej.*

SCARITINI.

Pasimachus Bon.

marginatus *Bon.*
Scarites marg. *Fabr.*
subsulcatus *Say.*
sublaevis *Bon.*
Scarites subl. *Beauv.*
var. P. rugosus *Lec.*
var. P. assimilis *Lec.*
substriatus *Hald.*
viridans *Lec.*
elongatus *Lec.*
depressus var.‡ *Say.*
punctulatus *Hald.*
depressus *Bon.; Putz.*
?Scarites depr. *Fabr.*
morio *Lec.*
var. laevis *Lec.*
corpulentus *Lec.*
validus *Lec.*
punctulatus‡ *Lec.*
californicus *Chaud.* —
an a praec. diff.?
obsoletus *Lec.*
duplicatus *Lec.*

Scarites Fabr.

substriatus *Hald.*
quadriceps *Chaud.*
distinctus *Hald.*
ephialtes *Lec.*
intermedius *Lec.*
subterraneus *Fabr.*
var. californicus *Lec.*
var. vicinus *Chaud.*
affinis *Lec.*
var. denticollis *Chaud.*
patruelis *Lec.*

Dyschirius Bon.

tridentatus *Lec.*
quadridens *Motsch.*
var. convexus *Lec.*
patruelis *Lec.*
basalis *Lec.*
dejeanii *Putz.* —
integer *Lec.*
nigripes *Lec.*
apicalis‖ *Lec.*
consobrinus *Lec.*
gibbipennis *Lec.*
aeneolus *Lec.*
longulus *Lec.*
an a seq. diff.?
pumilus *Putz.* —
globulosus *Putz.*
Clivina gl. *Say.*
var. parvus *Lec.*
haemorrhoidalis *Putz.*
Clivina haem. *Dej.*
terminatus *Lec.*
analis *Lec.*
sphaericollis *Putz.*
Clivina sph. *Say.*
edentulus *Putz.* —
truncatus *Lec.*
erythrocerus *Lec.*

---

[1] The following species are not found in North America: *C. carolinus* Fabr. = *C. splendens*: *C. beauvoisii* Dej. = *C. catenulatus* Fabr.

marinus *Lec.*
Acephorus mar. *Lec.*
sellatus *Lec.*
pallipennis *Putz.*
Clivina pall. *Say.*
curvispinus *Putz.* —
filiformis *Lec.*
sublaevis *Putz.* —
dentiger *Lec.*
aratus *Lec.*
rufiventris *Lec.*
transmarinus *Mann.* —
frigidus *Mann.* —
setosus *Lec.*
pilosus *Lec.*
hispidus *Lec.* n. sp.

Ardistomis Putz.

obliquata *Putz.*
schaumii *Lec.*
viridis *Lec.*
Clivina viridis *Say.*
Clivina rostrata *Dej.*
Ard. rostrata *Putz.*
var. Ard. vicina *Putz.*
puncticollis *Putz.*
an praec. gens?

Aspidoglossa Putz.

subangulata *Lec.*
Cliv. bipustulata‡ *Say*
Cliv. crenata‡ *Dej.*
Dyschirius subang. *Chaud.*
Dysch. humeralis *Chaud.*
Asp. vicina *Putz.*
Asp. fraterna *Putz.*

Clivina Latr.

corvina *Putz.*
α. **confusa** *Lec.*
β. **georgiana** *Lec.*
dentipes *Dej.* —
fissipes *Putz.* —
impressifrons *Lec.*
planicollis *Lec.*
punctulata *Lec.*
punctigera *Lec.*
rubicunda *Lec.*
rufescens *Dej.*
?pallida *Say.*
rufa *Lec.*
randalli *Lec.*
elongata|| *Randall.*
analis *Putz.* —
americana *Dej.*
acuducta *Hald.*
morula *Lec.*
cordata *Putz.*
morio *Dej.* —
striatopunctata *Dej.*
ferrea *Lec.*
convexa *Lec.*
an a seq. diff.?
bisignata *Putz.* —
bipustulata *Dej.*
Scarites bip. *Fabr.*
S. quadrimaculatus *Beauv.*
Clivina quadr. *Say.*
marginipennis *Putz.* —
postica *Lec.*
picea *Putz.*
stigmula *Putz.* —[1]

Schizogenius Putz.

crenulatus *Lec.*
planulatus *Lec.* n. sp.
lineolatus *Lec.*
Clivina lin. *Say.*
Schiz. sulcifrons *Putz.*
ferrugineus *Putz.*
Cliv. sulcata *Lec.*
amphibius *Lec.*
Clivina amph. *Hald.*
Cliv. frontalis *Lec.*
depressus *Lec.*
pluripunctatus *Lec.*
var. simplex *Lec.*

OZAENIDAE.

PSEUDOMORPHINI.

Pseudomorphus Kir.

excrucians *Kirby.*
Drepanus lecontei *Dej.*

HARPALIDAE.

BRACHININI.

Brachinus Weber.

tormentarius *Lec.*
alternans *Dej.*
strenuus *Lec.*
?deyrollii *Ferté.*
perplexus *Dej.*
var. viridipennis *Dej.*
var. viridis *Lec.*
var. lecontei *Lec.*
americanus *Lec.*
ballistarius *Lec.*
fumans *Fabr.*
librator *Dej.*
var. perplexus‡ *Lec.*
var. sufflans *Lec.*
var. similis *Lec.*
var. cyanopterus *Lec.*
costipennis *Motsch.*
var. lecontei|| *Motsch.*
tschernikhii *Mann.*
carinulatus *Motsch.*
fidelis *Lec.*
kansanus *Lec.*
cordicollis *Dej.*
conformis‡ *Lec.*
velox *Lec.*
var.? cephalotes *Dej.*
stygicornis *Say.*
rejectus *Lec.*
cordicollis‡ *Lec.*
janthinipennis *Lec.*
Aptinus janth. *Dej.*
quadripennis *Dej.*
medius *Lec.*
ovipennis *Lec.*
cephalotes‡ *Lec.*
conformis *Dej.*
patruelis *Lec.*
pumilio *Lec.*
lateralis *Dej.*

PANAGAEINI.

Panagaeus Latr.

crucigerus *Say.*
fasciatus *Say.*

Micrixys Lec.

distinctus *Lec.*
Panagaeus dist. *Hald.*
Eugnathus|| dist. *Lec.*

MORIONINI.

Morio Latr.

georgiae *Lec.*
Scarites georg. *Beauv.*
Harp. mon. *Latr.*
M. monilicornis *Dej.*

HELLUONINI.

Helluomorpha Lap.

clairvillei *Lap.*
Helluo clairv. *Dej.*
praeusta *Lap.*
Helluo prae. *Dej.*

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[1] *C. picipes* Bon. is probably not North American: *Scar. attenuatus* Herbst. is irrecognizable.

laticornis *Lap.*
Helluo lat. *Dej.*
Zuphium bicolor *Harris.*
ferruginea *Lec.*
texana *Lec.*
nigripennis *Lap.*
Helluo nigr. *Dej.*

DRYPTINI.

Galerita Fabr.

atripes *Lec.*
janus *Fabr.*
americana‡ *Dej.*
var. cyanipennis *Dej.*
var. cordicollis *Chaud.*
californica *Mann.*
lecontei *Dej.*
bicolor *Klug.*
?Carabus bic. *Drury.*
G. longicollis *Chaud.*
G. dubia *Lec.*

Zuphium Latr.

americanum *Dej.*

Diaphorus Dej.

lecontei *Dej.*
tenuicollis *Lec.*

Thalpius Lec.

pygmaeus *Lec.*
Helluo pygm. *Dej.*
dorsalis *Lec.*
?Diaphorus dor. *Brullé.*
rufulus *Lec.*
Enaphorus ruf. *Lec.*

ODACANTHINI.

Casnonia Latr.

pensylvanica *Dej.*
Attelabus pens. *Linn.*
ludoviciana *Sallé.*[1]

Leptotrachelus Lat.

dorsalis *Latr.*
Odacantha dors. *Fabr.*
Spheracra dors. *Say.*

Ega Lap.

sallei *Chevr.*
laetula *Lec.*

Lachnophorus Dej.

pubescens *Dej.*
elegantulus *Mann.*
Tachypus mediosignatus *Mén.*

Eucaerus Lec.

varicornis *Lec.*

LEBIINI.

Plochionus Dej.

timidus *Hald.*
bonfilsii *Dej.*
amandus *Newman.*
vittatus *Lec.*
valens *Lec.* n. sp.

Lebia Latr.

grandis *Hentz.*
atriventris *Say.*
atriceps *Lec.* n. sp.
tricolor *Say.*
pleuritica *Lec.*
viridipennis *Dej.*
borea *Hentz.*
cupripennis *Boh.* —
ruficollis *Lec.*
cyanipennis *Dej.*
cyanella. —
Lamprias cyan. *Motsch.*
an praec. var.?
viridis *Say; Dej.*
smaragdula *Dej.*
vix a praec. differt.
moesta *Lec.*
maculicornis *Lec.*
pumila *Dej.*
floricola *Harris.*
marginicollis *Dej.*
an a seq. diff.?
affinis *Dej.*
Lamp. limbicollis *Motsch.*
ornata *Say.*
analis *Dej.*
var. marginella *Dej.*
scapularis *Dej.*
solea *Hentz.*
furcata *Lec.*
bilineata *Motsch.* —
vittata *Say.*
Carabus vitt. *Fabr.*
var. L. conjungens *Lec.*
axillaris *Dej.*
brunnea *Hald.*
Dromius apicalis *Hald.*
fuscata *Dej.*
guttula *Lec.*
collaris *Dej.*
var nigripennis *Dej.*
lobulata *Lec.* n. sp.
pulchella *Dej.*
bivittata *Er.*
Carabus biv. *Fabr.*
L. quadrivittata *Dej.*
abdominalis *Chaud.*
divisa *Lec.*
concinna‖ Lec.
angulata *Boh.* —
an potius Rhombodera?

Nemotarsus Lec.

elegans *Lec.*

Tetragonoderus Dej.

intersectus *Lec.*
Bembidium int. *Germ.*
T. lecontei *Dej.*
fasciatus *Lec.*
Coptodera fasc. *Hald.*
Thyreopterus fasc. *Lec.*
undulatus *Lec.* n. sp.

Trechicus Lec.

umbripennis *Lec.*
pallipennis *Lec.*

Dromius Bon.

piceus *Dej.*
a. **quadricollis** *Lec.*[2]

Apristus Chaud.

cordicollis *Chaud.*
Dromius cord. *Lec.*
subsulcatus *Chaud.*
Dromius subs. *Dej.*
laticollis *Lec.*
latens *Lec.*
Dromius l. *Lec.*

Metabletus Schmidt.

americanus *Schaum.*
Dromius am. *Dej.*
Bomius am. *Lec.*

Blechrus Motsch.

linearis *Schaum.*
Dromius angustus‖ *Lec.*
Bomius linearis *Lec.*

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[1] *Apiodera rufipes* Chaud. (*Casnonia rufipes* Dej.) is probably not a North American species; *Casnonia picta* Chaud. is a Mexican and not a Californian species.

[2] *D. geminatus* Hald. = *quadrinotatus* of Europe.

nigrinus *Schaum.*
Dromius nig. *Mann.*
lucidus *Schaum.*
Bomius luc. *Lec.*
pusio *Lec.* n. sp.

Axinopalpus Lec.

biplagiatus *Lec.*
Dromius bipl. *Dej.*
californicus *Lec.*
Dromius cal. *Motsch.*
fusciceps *Lec.*

Apenes Lec.

lucidula *Lec.*
Cymindis luc. *Dej.*
opaca *Lec.*
sinuata *Lec.*
Cymindis sinuata *Say.*
Cym. pustulata *Dej.*

Glycia Chaud.

viridicollis *Lec.*
Cymindis vir. *Lec.*
purpurea *Lec.*
Cymindis purp. *Say.*
var. Cym. amoena *Lec.*

Philophuga Motsch.

viridis *Motsch.* —
Cymindis vir. *Dej.*
cyanea *Motsch.* —

Cymindis Latr.

laticollis *Say.*
cribricollis *Dej.*
abstrusa *Lec.*
planipennis *Lec.* n. sp.
reflexa *Lec.*
?marginata *Kirby.*
elegans *Lec.*
hudsonica *Lec.* n. sp.
pilosa *Say.*
pubescens *Dej.*
borealis *Lec.* n. sp.
americana *Dej.*
var. venator *Dej.*
cribrata *Lec.*
neglecta *Hald.*[1]
?unicolor *Kirby.*

Pinacodera Schaum.

limbata *Schaum.*
Cymindis limb. *Dej.*
fuscata *Schaum.*
Cymindis f. *Dej.*
platicollis *Schaum.*
Cymindis pl. *Say.*
Cym. complanata *Dej.*
Lebia russata *Newman.*
punctigera *Lec.*
Cymindis punct. *Lec.*

Callida Dej.

planulata *Lec.*
smaragdina *Dej.*
cyanipennis *Chaud.* —
viridipennis *Say.*
marginata *Dej.*
fulgida *Dej.*
cyanoptera *Lec.*
decora *Dej.*
Carabus d. *Fabr.*
punctata *Lec.*[2]

Philotecnus Lec.

croceicollis *Lec.*
Callida croceic. *Mén.*
Phil. ruficollis *Lec.*
chloridipennis *Motsch.*
vix a praec. diff.
nigricollis *Lec.*

Rhombodera Reiche.

pallipes *Lec.*
Didetus pall. *Lec.*
bicolor *Lec.* n. sp.

Coptodera Dej.

signata *Dej.*
var. collaris *Lec.*
aerata *Dej.*
var. viridipennis *Lec*

PTEROSTICHINI.

Calathus Bon.

gregarius *Dej.*
Feronia greg. *Say.*
ingratus *Dej.*
incommodus *Mann.*
confusus *Lec.*
opaculus *Lec.*
quadricollis *Lec.*
behrensii *Mann.*
obscurus *Lec.*
ruficollis *Dej.*
advena *Schaum.*
Pristodactyla adv. *Lec.*
var. Anchom. lenis *Mann.*
mollis *Schaum.*
Anchomenus m. *Dej.*
Agonum m. *Esch.*
?var. Anch. dulcis *Mann.*
dubia *Lec.*
impunctata *Lec.*
Feronia imp. *Say.*
Pristodactyla americ. *Dej.*
var. Pr. corvina *Lec.*

Platynus Bon. (emend. Brullé).

larvalis *Lec.*
Rhadine lar. *Lec.*
caudatus *Lec.* n. sp.
dissectus *Lec.* n. sp.
agilis *Lec.*
fragilis‖ *Lec.*
hypolithos *Lec.*
Feronia hyp. *Say.*
Pl. erythropus *Dej.*
angustatus *Dej.*
stygicus *Lec.*
octofoveolatus *Lec.*
Anchomenus oct. *Mäkl.*
pusillus *Lec.*
Stomis americana‡ *Lec.*
Anchus pusillus *Lec.*
tenuicollis *Lec.*
marginatus *Lec.*
Colpodes marg. *Chaud.*
cincticollis *Lec.*
Feronia cinct. *Say.*
Anchomenus cinct. *Say.*
Platynus blandus *Germ.*
Anch. corvinus *Dej.*
var. A. deplanatus *Chaud.*
Anch. marginalis *Hald.*
opaculus *Lec.* n. sp.
bicolor *Lec.*
brunneomarginatus *Lec.*
Anchomenus brun. *Mann.*
Plat. cinctellus *Lec.*
?Anch. rugiceps *Mann.*
ovipennis *Lec.*
Anch. ovipennis *Mann.*
decens *Lec.*
Feronia decentis *Say.*
Anch. gagates *Dej.*
Anch. decentis *Say.*
Anch. coracinus *Lec.*
sinuatus *Lec.*
Anchomenus sin. *Dej.*
a. **depressus** (*Hald.*)

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[1] *C. morio* Dej. does not occur in the United States.

[2] *C. rubricollis* Dej. is not found within the present limits of the United States, but is confined to Cuba.

- β. **angusticollis**‡ *Kirby.*
- **funebris** *Lec.*
  - Scaphiod. opacus *Motsch.*
- **micans** *Lec.*
  - Anchomenus mic. *Mén.*
  - Scaphiodact. mic. *Chaud.*
- **aeneolus** *Lec.*
- **clemens** *Lec.* n. sp.
- **extensicollis** *Lec.*
  - Feronia ext. *Say.*
  - Fer. (Anch.) proxima *Har.*
  - Anch. ext. *Dej.*
- α. **obscuratus** (*Chaud.*)
  - Anch. elongatulus‡ *Lec.*
- β. **viridis** (*Lec.*)
- γ. **cyanescens** (*Motsch.*)
- **simplex** *Lec.*
- **decorus** *Lec.*
  - Feronia dec. *Say.*
  - Anch. dec. *Dej.*
  - var. Anch. obscurus *Lec.*
- **anchomenoides** *Lec.*
  - Agonum anch. *Randall.*
- **bicolor** *Lec.*
  - Anch. bicolor *Dej.*
  - Pl. marginellus *Lec.*
- **californicus** *Lec.*
  - Anchomenus cal. *Dej.*
- **collaris** *Lec.*
  - Anchomenus coll. *Say.*
- **moerens** *Lec.*
  - Anchomenus moer. *Dej.*
- **molestus** *Lec.*
  - laevis‖ *Lec.*
- **melanarius** *Lec.*
  - Agonum mel. *Dej.*
  - Agonum maurum *Hald.*
  - ?Fer. scutellaris *Say.*
- **metallescens** *Lec.*
- **tenuis** *Lec.*
- **harrisii** *Lec.*
  - Agonum harr. *Lec.*
- **piceus** *Lec.*
  - Agonum pic. *Lec.*
- **carbo** *Lec.*
- **atratus** *Lec.*
- **corvus** *Lec.*
- **frater** *Lec.*
- **quadratus** *Lec.*
- **cupripennis** *Lec.*
  - Feronia cupr. *Say.*
  - Agonum cupr. *Dej.*
- **subsericeus** *Lec.* n. sp.
- **punctiformis** *Lec.*
  - Feronia punct. *Say.*
  - Agonum rufipes *Dej.*
  - Agonum punct. *Say.*
  - Ag. foveicolle *Chaud.*
- **limbatus** *Lec.*
  - Feronia limb. *Say.*
  - Ag. palliatum *Dej.*
- **crenistriatus** *Lec.* n. sp.
- **aeruginosus** *Lec.*
  - Agonum aer. *Dej.*
- **excavatus** *Lec.*
  - Agonum exc. *Dej.*
- **ferreus** *Lec.*
  - Agonum ferr. *Hald.*
  - Ag. ocreatum *Hald.*
- **albicrus** *Lec.*
  - Agonum alb. *Dej.*
- **picticornis** *Lec.*
  - Anchomenus pict. *Newm.*
- **errans** *Lec.*
  - Feronia err. *Say.*
  - Agonum err. *Say.*
- **subcordatus** *Lec.*
  - ?Ag. erythropum‖ *Kirby.*
- **basalis** *Lec.*
  - Agonum bas. *Lec.*
- **vagans** *Lec.*
- **sulcatus** (*Dej.*) —
- **striatus** (*Dej.*) —
- **nutans** *Lec.*
  - Feronia n. *Say.*
  - Agonum n. *Say.*
  - Ag. femoratum *Dej.*
- **crenulatus** *Lec.*
- **striatopunctatus** *Lec.*
  - Agonum str. *Dej.*
  - Ag. decipiens *Lec.*
- **retractus** *Lec.*
  - Agonum retr. *Lec.*
  - ?Ag. lenum *Dej.*
- **picicornis** *Lec.*
- **ruficornis** *Lec.*
  - ?Ag. picipenne var. *Kirby.*
- **gratiosus** *Lec.*
  - Anchomenus gr. *Mann.*
- **picipennis** *Lec.*
  - Agonum pic. *Kirby.*
  - Ag. lenum‡ *Lec.*
- **lutulentus** *Lec.*
- **nigriceps** *Lec.*
  - Agonum nigr. *Lec.*
- **sordens** *Kirby.* (Ag.) —
- **octopunctatus** *Lec.*
  - Carabus oct. *Fabr.*
  - Feronia oct. *Say.*
  - Agonum oct. *Dej.*
- **perforatus** *Lec.* n. sp.
- **protractus** *Lec.*
- **chalceus** *Lec.*
  - Agonum ch. *Lec.*
  - ?Ag. cupreum *Dej.*
- **crassicollis** *Lec.*
- **placidus** *Lec.*
  - Feronia pl. *Say.*
  - Ag. morosum *Dej.*
- **maculicollis** *Lec.*
  - Agonum mac. *Dej.*
  - Anchomenus mac. *Mann.*
- **variolatus** *Lec.*
  - Ag. limbatum‖ *Motsch.*
- **deplanatus** *Lec.*
  - Agonum depl. *Mén.*
- **fossiger** *Lec.*
  - Agonum foss. *Dej.*
  - Ag. famelicum *Mén.*
  - Agonothorax robustus *Mot.*
- **consimilis** *Lec.*
- **obsoletus** *Lec.*
  - Feronia obs. *Say.*
  - Ag. luctuosum *Dej.*
  - Ag. obsoletum *Say.*
  - Ag. placidum‡ *Lec.*
- **strigicollis** *Lec.*
  - Anchomenus str. *Mann.*
- **bogemanni** *Lec.* —
  - Harpalus bog. *Gyll.*
  - Agonum bog. *Dej.*
  - Anchomenus bog. *Gaubil.*
- **bembidioides** *Lec.*
  - Sericoda bemb. *Kirby.*
  - Agonum bemb. *Lec.*
- **stigmosus** *Lec.*
  - quadripunctatus‡ *Lec.*
  - an octocolus?
- **octocolus** (*Mann.*) —
- **seminitidum** (*Kirby.*) —
- **affine** (*Kirby.*) —
- **simile** (*Kirby.*) —
- **maculifrons** (*Say.*) —
- **elongatulus** (*Dej.*) —
- **nitidulum** (*Dej.*) —
- **cupreum** (*Dej.*) —
- **brevicolle** (*Dej.*) —
- **ferruginosus** (*Dej.*) —
- **fragilis** (*Mann.*) —
- **exaratus** (*Mann.*)[1] —

Olisthopus Dej.

- **parmatus** *Dej.*
  - Feronia parm. *Say.*
  - var. Ol. cinctus *Say.*
- **micans** *Lec.*

Loxandrus Lec.

- **saphyrinus** *Lec.*
  - Megalostylus‖ saph. *Chaud.*

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[1] Several marked as not recognized are probably identical with other species, but references to original types will be necessary to establish the synonyms.

- **rectus** *Lec.*
  - Feronia r. *Say.*
  - Pogonus r. *Say.*
  - Feronia lucidula *Dej.*
  - var. Meg. laticollis *Chaud.*
- **brevicollis** *Lec.*
  - Argutor brev. *Lec.*
  - Arg. minor‡ *Lec.*
- **erraticus** *Lec.*
  - Feronia err. *Dej.*
- **minor** *Lec.*
  - Megalostylus m. *Chaud.*
  - Argutor nitidulus *Lec.*
- **celer** *Lec.*
  - Feronia celeris *Dej.*
- **agilis** *Lec.*
  - Feronia ag. *Dej.*
- **pusillus** *Lec.*
- **velox** *Lec.*
  - Feronia vel. *Dej.*
  - Argutor rectus‡ *Lec.*
- **taeniatus** *Lec.*
- **piciventris** *Lec.*
- **crenatus** *Lec.*

Evarthrus Lec.

- **gravidus** *Hald.*
- **engelmanni** *Lec.*
- **sigillatus** *Lec.*
  - Feronia sig. *Say.*
  - Fer. vidua *Dej.*
- **seximpressus** *Lec.*
- **americanus** *Lec.*
  - Feronia am. *Dej.*
- **conviva** *Lec.*
- **vagans** *Lec.*
  - Feronia vag. *Lec.*
- **unicolor** *Lec.*
  - Feronia un. *Say.*
- **rotundatus** *Lec.*
- **brevoorti** *Lec.*
  - Feronia br. *Lec.*
- **faber** *Lec.*
  - Molops faber *Germ.*
  - Fer. tenebricosa *Dej.*
  - Fer. spoliata *Newm.*
- **acutus** *Lec.*
- **obsoletus** *Lec.*
  - Feronia obs. *Say.*
- **approximatus** *Lec.*
  - Broscus appr. *Lec.*
- **laevipennis** *Lec.*
  - Broscus laev. *Lec.*
- **morio** *Lec.*
  - Feronia morio *Dej.*
- **vinctus** *Lec.*
- **abdominalis** *Lec.*
  - Feronia abd. *Lec.*
- **lixa** *Lec.*
  - Feronia lixa *Lec.*
- **incisus** *Lec.*
  - Feronia inc. *Lec.*
- **ovipennis** *Lec.*
  - Feronia ov. *Lec.*
- **latebrosus** *Lec.*
- **constrictus** *Lec.*
  - Feronia cons. *Say.*
- **substriatus** *Lec.*
  - Feronia subs. *Lec.*
- **colossus** *Lec.*
  - Feronia col. *Lec.*
- **heros** *Lec.*
  - Feronia heros *Say.*
- **torvus** *Lec.* n. sp.
- **orbatus** *Lec.*
  - Feronia orb. *Newm.*
  - var. Fer. sodalis *Lec.*
  - var. Fer. corax *Lec.*
  - var. Ev. fatuus *Lec.*
- **furtivus** *Lec.*

Pterostichus Bon.
(emend. Er.)

§ Hypherpes Chaud.[1]

- **herculaneus** *Mann.*
- **planctus** *Lec.*
- **algidus** *Lec.*
  - Br. subparallelus *Motsch.*
- **validus** *Mann.*
  - Feronia val. *Dej.*
- **curtipennis.** —
  - Brachystylus curt. *Motsch.*
- **vicinus** *Mann.*
  - californicus‡ *Lec.*
- **protractus** *Lec.*
- **amplicollis** *Lec.*
  - Brachystylus amp. *Motsch.*
- **parallelus.** —
  - Brachystylus par. *Motsch.*
- **amethystinus** *Mann.*
- **castaneus** *Mann.*
  - Feronia cast. *Dej.*
- **brunneus** *Mann.*
  - Feronia brunnea *Dej.*
- **angustus** *Mann.*
  - Feronia ang. *Dej.*
  - P. linearis *Lec.*
- **muticus** *Lec.*
- **californicus** *Mann.*
  - Feronia cal. *Dej.*
  - Pter. simplex *Lec.*
- **menetriesii** *Lec.*
  - Brachystylus m. *Motsch.*
  - Br. megas *Chaud.*
  - Feronia atra *Mén.*
- **castanipes** *Lec.*
  - Feronia cast. *Mén.*
- **contractus** *Lec.*
- **longicollis** *Motsch.*
- **isabellae** *Lec.*
- **congestus** *Lec.*
  - Feronia cong. *Mén.*
  - Pter. illustris *Lec.*
- **sustentus** *Lec.*
- **rejectus** *Lec.*
- **adoxus** *Lec.*
  - Feronia ad. *Say.*
  - Fer. tristis *Dej.*
  - Fer. interfector *Newm.*
- **subarcuatus** *Lec.*
- **sphodrinus** *Lec.* n. sp.
- **longicollis** *Lec.*
- **rostratus** *Lec.*
  - Feronia rostr. *Newm.*
  - var. Pt. grandiceps *Lec.*

§ Poecilus Bon.

- **subcordatus** (*Lec.*)
- **scitulus** (*Lec.*)
- **laetulus** *Lec.*
  - Poec. occidentalis‡ *Lec.*
- **occidentalis** *Mann.*
  - Feronia occ. *Dej.*
- **cyaneus** (*Lec.*)
- **texanus** *Lec.* n. sp.
- **chalcites** *Lec.*
  - Feronia chalcites *Say.*
  - Poec. sayi *Brullé.*
  - Poecilus chalc. *Kirby.*
  - Poec. micans *Chaud.*
- **cursitor** (*Lec.*)
  - Poec. cursorius‖ *Lec.*
- **atratus** *Lec.*
  - Feronia atrata *Newm.*
- **lucublandus** *Lec.*
  - Feronia luc. *Say.*
  - Poec. lucublandus *Kirby.*
  - var. Poec. fraternus *Say.*
  - var. Poec. castanipes *Kirb.*
  - var. Poec. dilatatus *Lec.*
- **bicolor** (*Lec.*)
- **convexicollis** *Lec.*
  - Feronia conv. *Say.*
  - Poecilus conv. *Lec.*
- **splendidulus** *Lec.* n. sp.

§ Lagarus Chaud.?

- **erythropus** *Lec.*
  - Feronia er. *Dej.*
  - Platyderus nitidus *Kirby.*

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[1] This division includes all the American species without dorsal punctures, and consequently embraces also *Brachystylus* Chaud.

§ Piesmus Lec.

submarginatus *Lec.*
Feronia subm. *Say.*
Poec. monedula *Germ.*
?Fer. picipes *Newm.*

§ Omaseus Ziegl.

acutangulus *Lec.*
Lyperus ac. *Chaud.*
caudicalis *Lec.*
Feronia caud. *Say.*
Om. nigrita‡ *Kirby.*
Stereocerus caud. *Lec.*
luctuosus *Lec.*
Feronia luct. *Dej.*
Fer. hamata *Harris.*
Pt. abjectus *Lec.*
corvinus *Lec.*
Feronia corv. *Dej.*
Fer. subpunctata *Harris.*
Om. tenebrosus *Chaud.*
rufiscapus (*Mann.*) —

§ Argutor Meg.

patruelis *Lec.*
Feronia pat. *Dej.*
desidiosus *Lec.* n. sp.
femoralis (*Kirby.*)
bicolor (*Kirby.*) —
linearis (*Mann.*) —

§ Dysidius Chaud.

purpuratus *Lec.*
mutus *Lec.*
Fer. polita *Harris.*
Feronia muta *Say.*
Fer. morosa *Dej.*
Om. picicornis *Kirby.*
lustrans *Lec.*
puncticollis. —
Platysma punct. *Motsch.*

§ Platysma Bon.[1]

oregonus *Lec.*
maeklini *Lec.*
Fer. vitrea auct. (var. am.)
adstrictus *Esch.*
Poecilus adstr. *Germ.*
Feronia adstr. *Dej.*
Pl. oblongiuscula *Motsch.*
luczotii *Lec.*
Feronia lucz. *Dej.*
Fer. oblongonotata *Say.*
Om. orinonum‡ *Kirby.*
Pt. motschulskyi *Mäklin.*
a. **sexpunctatus** (*Mann.*)
Pl. obtusangula *Motsch.*
seriepunctatus *Mann.*
commixtus *Mäkl.* —
Bothriopterus com. *Chaud*
fuscoaeneus *Mann.* —
Omaseus fusc. *Chaud.*

§ Cryobius Chaud.

rugulosus *Mann.*
Steropus rug. *Motsch.*
vindicatus *Mann.*
ventricosus *Mann.*
Poecilus ventr. *Esch.*
Feronia ventr. *Dej.*
subexaratus (*Mann.*)
pinguedineus *Mann.*
Poecilus ping. *Esch.*
Feronia ping. *Dej.*
hyperboreus *Mann.*
similis *Mann.*
quadricollis (*Mann.*)
fatuus (*Mann.*)
riparius *Mann.*
Feronia rip. *Dej.*
hudsonicus *Lec.* n. sp.
subcaudatus (*Mann.*)
empetricola *Mann.*
Feronia emp. *Dej.*
fastidiosus (*Mann.*)
mandibularis *Lec.*
Argutor mand. *Kirby.*
Feronia ochotica *Sahl.*
brevicornis. —
Argutor brev. *Kirby.*
an Pt. fastidiosus?
ruficollis (*Mann.*) —
rotundicollis (*Mann.*) —

§ Steropus Meg.

obscurus *Lec.*
Feronia obs. *Say.*
ventralis *Lec.*
Feronia ventr. *Say.*
tumescens *Lec.* n. sp.

§ Pterostichus Bon.

mancus *Lec.*
Evarthrus manc. *Lec.*
lubricus *Lec.*
?Feronia carbonaria *Dej.*
coracinus *Lec.*
Feronia cor. *Newm.*
adjunctus *Lec.*
flebilis *Lec.*
stygicus *Lec.*
Feronia styg. *Say.*
Fer. bisigillata *Harris.*
Omaseus rugicollis *Hald.*
monedula (*Newm.*) —
moerens (*Newm.*) —
picipes (*Newm.*) —
an P. submarginatus?
protensus *Lec.* n. sp.
moestus *Lec.*
Feronia moest. *Say.*
Fer. superciliosa *Say.*
Fer. relicta *Newm.*
punctatissimus *Randall.*

§ Haptoderus Chaud.?

honestus *Lec.*
Feronia hon. *Say.*
Fer. fastidita *Dej.*
Stomis americana *Lap.*
lachrymosus *Lec.*
Feronia lachr. *Newm.*

§ Abacidus Lec.

fallax *Lec.*
Feronia fallax *Dej.*
sculptus *Lec.*
Feronia striata|| *Dej.*

§ Peristethus Lec.

permundus *Lec.*[3]
Feronia perm. *Say.*

Holciophorus Lec

ater *Lec.*
Feronia atra *Dej.*
Percus lama *Mén.*

Lophoglossus Lec.

haldemani *Lec.*
Lyperus hald. *Lec.*
tartaricus *Lec.*
Feronia tart. *Say.*
Feronia complanata *Dej.*
strenuus *Lec.*
scrutator *Lec.*
Lyperus scrut. *Lec.*

Myas Dej.

coracinus *Brullé.*
Feronia cor. *Say.*
M. cyanescens *Dej.*
foveatus *Lec.*

Amara Bon.

§ Liocnemis Zim.

avida *Lec.*
Zabrus avidus *Say.*
Am. confinis *Dej.*

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[1] *Bothriopterus* Chaud.
[2] *Feronia quadricollis* Lec = *Pt. parallelus* of Europe.
[3] *Feronia ebenina* Dej. is probably not a North American species.

§ STEREOCERUS Kirby.

similis *Lec.*
Stereocerus sim. *Kirby.*

§ LIRUS Zim.

jacobinae *Lec.*
lacustris *Lec.*
laticollis *Lec.*
?Curtonotus convexiusculus‡ *Kirby.*
carinata *Lec.*
californica (*Motsch.*) —
stupida *Lec.*
eschscholtzii *Lec.*
Leirus esch. *Chaud.*
infausta *Lec.*
Leir. rufimanus‖ *Motsch.*
Leir. carinatus‡ *Mann.*
melanogastrica *Dej.*
obtusa *Lec.*
eschscholtzii‡ *Mann.*
hyperborea *Dej.* —
brunnipennis *Dej.* —
ovipennis (*Motsch.*) —
elongata *Lec.*[1]

§ BRADYTUS Zim.

exarata *Dej.*
furtiva *Say.*
oregona *Lec.*
libera *Lec.*
Isopleurus hyp.‡ *Lec.*
septentrionalis *Lec.*
Isopleurus sept. *Lec.*
?Isopl. nitidus‖ *Kirby.*
glacialis *Lec.*
Bradytus glac. *Mann.*

§ AMARA Bon.; Zim.

angustata *Say.*
Feronia ang. *Say.*
Am. indistincta *Hald.*
pallipes *Kirby.*
Triaena depressa *Lec.*
scitula *Zimm.*
longula *Zimm.*
insignis *Dej.*
var. Celia coerulea *Motsch.*
basillaris *Say.*
Feronia bas. *Say.*
Am. lucidula *Dej.*
chalcea *Dej.*
impuncticollis *Say.*
Feronia imp. *Say.*
Am. trivialis‡ *Dej.*
Am. anthracina *Hald.*
Am. difficilis *Lec.*
Am. brunnipes *Motsch.*
littoralis *Zimm.*
inepta *Lec.*
crassispina *Lec.*
conflata *Lec.*
impressicollis *Motsch.*
fallax *Lec.*
subpunctata *Lec.*
confusa *Lec.*
polita *Lec.*
convexa *Lec.*[2]

§ CELIA Zimm.

erratica *Sturm.*
Celia err. *Zimm.*
Am. punctulata *Dej.*
laevipennis *Kirby.*
discors *Kirby.* —
interstitialis *Dej.*
Celia int. *Zimm.*
?Am. patruelis *Dej.*
Am. inaequalis *Kirby.*
Am. splendida *Hald.*
farcta *Lec.*
californica *Dej.*
Celia cal. *Zimm.*
obesa *Say.*
patricia‡ *Dej.*
Percosia ob. *Hald.*
diffinis *Lec.*
Percosia diff. *Lec.*
an praec. gens?
terrestris *Lec.*
Isopleurus terr. *Lec.*
remotestriata *Dej.*
Celia remota *Zimm.*
C. relucens *Mann.*
indistincta (*Mann.*) —
amplicollis (*Mann.*) —
purpurascens (*Motsch.*)
gibba *Lec.*
Celia gibba *Lec.*
rubrica *Hald.*
subaenea *Lec.*
Acrodon sub. *Lec.*
musculus *Say.* (—lis).
Acrodon musc. *Lec.*
Ac. contempta *Lec.*
harpalina *Lec.*
rectangula *Lec.*
aurata *Dej.*
Celia aur. *Zimm.*

LICININI.

Badister Clairv.

notatus *Hald.*
terminalis *Lec.*
pulchellus *Lec.*
maculatus *Lec.*
flavipes *Lec.*
micans *Lec.*
submarinus *Motsch.*
ferrugineus *Dej.* —
anthracinus *Lec.*

Diplochila Brullé.

laticollis *Lec.*
Rembus lat. *Lec.*
R. assimilis *Lec.*
a. **major** *Lec.* (Rembus).
impressicollis *Brullé.*
Rembus imp. *Dej.*
obtusus *Lec.*
Rembus obt. *Lec.*

Dicaelus Bon.

laevipennis *Lec.*
costatus *Lec.*
dejeanii *Dej.*
dilatatus *Say.*
quadratus *Ferté.*
splendidus *Say.*
var. decoloratus *Lec.*
purpuratus *Bon.*
var. chalybeus *Dej.*
var. confusus *Lec.*
var. violaceus *Bon.*
var. cyaneus *Dej.*
var. iricolor *Lec.*
quadratus *Lec.*
lecontei *Ferté.*
carinatus *Dej.*
alternans *Dej.*
sculptilis *Say.*
crenatus *Lec.*
planicollis *Lec.*
furvus *Say.*
ovalis *Lec.*
simplex *Dej.*
var. obscurus *Lec.*
opacus *Ferté.*
elongatus *Dej.*
turbulentus *Lec.* **n. sp.**
reflexus *Lec.*
?ambiguus *Ferté.*
teter *Bon.*
politus *Dej.*
leonardii *Harris.*

CHLAENIINI.

Anomoglossus Ch.

emarginatus *Chaud.*
Chlaenius emarg *Say.*

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[1] What are *Curtonotus rufimanus* and *brevilabris* Kirby?

[2] The European *A. vulgaris* is said by Kirby to occur in the northern part of the continent; and *A. spreta* is cited as an American species by Zimmermann.

pusillus *Chaud.*
Chlaenius pus. *Say.*
Chl. elegantulus *Dej.*
amoenus *Lec.*
Chlaenius am. *Dej.*

Chlaenius Bon.

posticus *Lec.*
apicalis‖ *Lec.*
ruficauda *Chaud.*
viridifrons *Esch.* —
patruelis *Lec.*
aestivus *Say.*
cobaltinus *Dej.*
var. congener *Lec.*
erythropus *Germ.*
rufilabris *Dej.*
fuscicornis *Dej.*[1]
laticollis *Say.*
diffinis *Chaud.*
?var. platyderus *Chaud.*
regularis *Lec.*
rufipes *Dej.*
var. brevicollis‖ *Lec.*
brachyderus *Chaud.*
lithophilus *Say.*
viridanus *Dej.*
augustus *Newm.*
lecontei *Hald.*
sericeus *Say.*
Carabus ser. *Forster.*
var. Chl. perviridis *Lec.*
prasinus *Dej.*
smaragdinus *Chaud.*
sparsus *Lec.* n. sp.
cumatilis *Lec.*
leucoscelis *Chevr.*
monachus *Lec.*
chlorophanus *Dej.*
cordicollis *Kirby.* —
solitarius *Say.*
nemoralis *Say.*
pensylvanicus *Say.*
pubescens *Harris.*
vicinus *Dej.*
oxygonus *Chaud.*
longicollis *Chaud.*
?fulgiceps *Newm.*
?quadricollis *Kirby.*
tricolor *Dej.*
brevilabris *Lec.*
?impunctifrons‖ *Kirby.*
var. consimilis *Lec.*
nebraskensis *Lec.*
simillimus *Chaud.*
vicinus‡ *Mann.*
rogator *Motsch.* —
glaucus *Lec.*
sericinitens *Chaud.*
vafer *Lec.*
variabilipes *Esch.*
asperulus *M. n.*
obscurus *Lec.*
a. **obsoletus** *Lec.*
circumcinctus *Say.*
virens *Chaud.*
harpalinus *Esch.*
impunctifrons *Say.*
emarginatus‡ *Kirby.*
niger *Randall.*
exaratus *Ferté.*
purpuricollis *Randall.*
tomentosus *Dej.*
Epomis tom. *Say.*
Amara luctuosa *Germ.*
amplus *Lec.*[2]

Atranus Lec.

pubescens *Lec.*
Anchomenus pub. *Dej.*
Anch. obconicus *Hald.*

Lachnocrepis Lec.

parallelus *Lec.*
Oodes? parall. *Say.*

Anatrichis Lec.

minuta *Lec.*
Oodes min. *Dej.*

Oodes Bon.

fluvialis *Lec.* n. sp.
americanus *Dej.*
amaroides *Dej.*
texanus *Lec.* n. sp.
14-striatus *Chaud.*
picipes *Lec.*
stenocephalus *Ferté.*
Crossocrepis qu. *Chaud.*
lecontei *Lec.*
Stenous lec. *Chaud.*
O. 14-striatus‡ *Lec.*
cupræus *Chaud.*
leucodactylus *Ferté.*
elegans *Lec.*

Evolenes Lec.

impressus *Lec.*
exaratus *Lec.*
O. exaratus *Dej.*

BROSCINI.

Miscodera Esch.

insignis *Mann.* —
americana *Mann.* —

Haplochile Lec.

pygmaea *Lec.*
Morio pygm. *Dej.*

Psydrus Lec.

piceus *Lec.*

HARPALINI.

Nothopus Lec.

zabroides *Lec.*
Euryderus‖ zab. *Lec.*
?Amara grossa *Say.*

Geopinus Lec.

incrassatus *Lec.*
Daptus incrassatus *Dej.*

Cratocara Lec.[3]

erro *Lec.*
Melanotus erro *Lec.*

Cratacanthus Dej.

dubius *Lec.*
Harpalus dub. *Beauv.*
Cr. pensylvanicus *Dej.*

Cratognathus Dej.

setosus *Lec.*
Piosoma set. *Lec.*
alternatus *Lec.* n. sp.
cordatus *Lec.*

Agonoderus Dej.

lineola *Dej.*
Carabus lin. *Fabr.*
Car. furcatus *Fabr.*
pallipes *Dej.*
Carabus pall. *Fabr.*
dorsalis *Lec.*
rugicollis *Lec.*

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[1] By a typographical error, the names of this and the preceding species have been exchanged on p. 25 of the Proc. Acad. Nat. Sc. Phil. 1856: No. 8 should be *erythropus* and No. 9 *fuscicornis*.
[2] *Dinodes rotundicollis* Dej. is probably not North American.
[3] *Melanotus*‖ Dej.

infuscatus *Dej.*
suturalis *Lec.*

Discoderus Lec.

impotens *Lec.*
Harpalus imp. *Lec.*
amoenus *Lec.* n. sp.
parallelus *Lec.*
Selenophorus par. *Hald.*
tenebrosus *Lec.*
Selenophorus ten. *Lec.*
americanus. —
Pangus am. *Motsch.*

Anisodactylus Dej.

§ DICHIRUS Mann.

dilatatus *Lec.*
Harpalus dil. *Dej.*
hirsutus (*Mén.*)
brunneus. —
Harpalus br. *Dej.*
obtusus *Lec.*
villosus (*Motsch.*) —
irregularis (*Motsch.*) —
piceus (*Mén.*)
parallelus *Lec.*
pallidus (*Motsch.*) —

§ TRIPLECTRUS Lec.

merula *Dej.*
Harpalus mer. *Germ.*
rusticus *Dej.*
var. pinguis *Lec.*
var. crassus *Lec.*
var. gravidus *Lec.*
var. tristis *Dej.*
ellipticus *Lec.*
carbonarius *Lec.*
Harpalus carb. *Say.*
An. luctuosus *Dej.*
var. An. rufipennis *Lec.*

§ ANISODACTYLUS Dej.

nigerrimus *Lec.*
Harpalus nig. *Dej.*
Harp. laticollis *Kirby.*
punctulatus *Lec.* n. sp.
furvus *Lec.* n. sp.
harrisii *Lec.* n. sp.
melanopus *Lec.*
Harpalus mel. *Hald.*
An. agricola‡ *Lec.*
var. interpunctatus *Lec.*
?Harpalus int. *Kirby.*
nigrita *Dej.*
agricola *Dej.*
Harpalus agr. *Say.*
Harp. paradoxus *Hald.*
An. striatus *Lec.*
semipunctatus *Lec.*
consobrinus *Lec.*
var. brevicollis *Lec.*
var. confusus *Lec.*
californicus *Dej.*
similis *Lec.*
discoideus *Dej.*
baltimorensis *Dej.*
Harpalus balt. *Say.*
?Carabus st. crucis *Fabr.*
pitychrous *Lec.*
chalceus *Lec.*
viridescens *Lec.*
sublaevis *Lec.*
Ophonus subl. *Motsch.*
alternans *Lec.*
rudis *Lec.* n. sp.
porosus. —
Ophonus por. *Motsch.*

§ HAPLOCENTRUS Lec.

laetus *Dej.*
amaroides *Lec.*
coenus *Dej.*
Harpalus coenus *Say.*
var. An. subaeneus *Lec.*
obscurus *Lec.*

§

sericeus *Lec.*
Harpalus ser. *Harris.*
Harp. femoratus *Dej.*
An. femoratus *Brullé.*
Amphasia fem. *Lec.*

Xestonotus Lec.

lugubris *Lec.*
Selenophorus lug. *Dej.*

Spongopus Lec.

verticalis *Lec.*

Amphasia Newm.

interstitialis *Lec.*
Harpalus int. *Say.*
Harp. obscuripennis *Dej.*
Amph. fulvicollis *Newm.*

Eurytrichus Lec.

maculicornis *Lec.*
?Harpalus mac. *Chaud.*
flebilis *Lec.* n. sp.
piceus *Lec.*
terminatus *Lec.*
Feronia term. *Say.*
Harpalus term. *Dej.*
Harp. testaceus *Hald.*
agilis *Lec.*
Harpalus ag. *Dej.*
?Harp. similis *Say.*
nitidipennis *Lec.*

Agaosoma Mén.

californicum *Mén.*
Stenomorphus cal. *Mann.*

Stenomorphus Dej.

rufipes *Lec.*

Gynandrotarsus Ferté.

harpaloides *Ferté.*
opaculus *Lec.* n. sp.

Gynandropus Dej.

hylacis *Lec.*
Harpalus hyl. *Say.*
Gyn. americanus *Dej.*
elongatus *Lec.*

Bradycellus Er.

dichrous *Lec.*
Harpalus dichr. *Dej.*
Harp. iricolor *Say.*
vulpeculus *Lec.*
Harpalus vulp. *Say.*
Harp. nigripennis *Dej.*
obesulus *Lec.*
Harp. obesulus *Lec.*
autumnalis *Lec.*
Harpalus aut. *Say.*
Geobaenus aut. *Lec.*
arenarius *Lec.*
Geobaenus ar. *Lec.*
quadricollis *Lec.*
Geobaenus qu. *Lec.*
nigrinus *Lec.*
Harpalus nigr. *Dej.*
tibialis *Lec.*
Trechus tib. *Kirby.*
atrimedius *Lec.*
Feronia atr. *Say.*
Trechus similis *Kirby.*
badiipennis *Lec.*
Stenolophus bad. *Hald.*
Geob. ruficrus‡ *Lec.*
lugubris *Lec.*
Geobaenus lug. *Lec.*
conflagratus *Lec.*
Acupalpus confl. *Mann*
axillaris *Lec.*
Acupalpus ax. *Mann.*
cognatus *Schiödte.*
Harpalus cogn. *Gyll.*
Ac. longiusculus *Mann.*
var. B. nitens *Lec.*
congener *Lec.*
Geobaenus cong. *Lec.*
?Acup. debilipes *Say.*

nebulosus *Lec.*
Acup. suturalis|| *Lec.*
?indistinctus. —
Acupalpus ind. *Dej.*
rupestris *Lec.*
Trechus rup. *Say.*
Acup. elongatulus *Dej.*
Trechus flavipes *Kirby.*
symmetricus. —
Acupalpus sym. *Motsch.*
nubifer *Lec.*
ventralis *Lec.*
rivalis *Lec.*
linearis *Lec.* n. sp.
?immunis. —
Trechus im. *Kirby.*
?ruficrus. —
Trechus ruf. *Kirby.*
nitidus *Mann.*
Acupalpus nit. *Dej.*

Harpalus Latr.

§ SELENOPHORUS Dej.

stigmosus *Germ.*
Selen. impressus *Dej.*
laesus *Lec.*
beauvoisii (*Dej.*) —
fossulatus (*Dej.*) —
opalinus *Lec.*
Selen. iripennis‡ *Lec.*
gagatinus (*Dej.*)
Selen. maurus *Hald.*
var. S. viridescens *Lec.*
iripennis *Say.*
S. varicolor *Lec.*
pedicularius (*Dej.*)
troglodytes (*Dej.*)
aereus (*Lec.*)
var. S. planipennis *Lec.*
fatuus *Lec.* n. sp.
ovalis (*Dej.*)
ellipticus (*Dej.*)
granarius (*Dej.*)

§ HARPALUS Latr.

caliginosus *Say.*
Carabus cal. *Fabr.*
Selenophorus cal. *Dej.*
testaceus *Lec.*
Pangus test. *Lec.*
gravis *Lec.*
erraticus *Say.*
Car. pensylvanicus‡ *Oliv.*
retractus *Lec.*
impiger|| *Lec.*
amputatus *Say.*
stephensii *Kirby.*
var. rotundicollis *Kirby.*
viridiaeneus *Beauv.*
viridis *Say.*
assimilis *Dej.*
desertus *Lec.*
faunus *Say.*
badius *Dej.*
longior *Kirby.* —
pensylvanicus *Lec.*
Carabus pens. *Degeer.*
C. bicolor *Fabr.*
Harpalus bic. *Say.*
Harp. faunus‡ *Dej.*
compar *Lec.*
bicolor‡ *Dej.*
pensylvanicus‡ *Say.*
var. longicollis|| *Lec.*
erythropus *Dej.*
megacephalus *Lec.*
spadiceus *Dej.*
?comis *Hald.*
fallax *Lec.*
fulvilabris *Mann.*
ochropus *Kirby.* —
curtatus *Mann.* —
basilaris *Kirby.* —
pleuriticus *Kirby.*
herbivagus *Say.*
Ophonus mutabilis *Hald.*
var. H. proximus *Lec.*
opacipennis *Lec.*
Ophonus opac. *Hald.*
nitidulus *Chaud.*
ventralis *Lec.*
albionicus *Mann.* —
somnolentus *Dej.*
fraternus *Lec.*
oblitus *Lec.*
funestus *Lec.*
innocuus *Lec.* n. sp.
cautus *Dej.*
var. advena *Lec.*
ellipsis *Lec.*
varicornis *Lec.*
carbonatus *Lec.*
laticeps *Lec.*
stupidus *Lec.*
rufimanus *Lec.*
dulcicollis *Ferté.* —
alternans *Motsch.* —
depressicollis *Motsch.* —

Stenolophus Dej.

carbonarius *Brullé.*
limbalis *Lec.*
indistinctus *Motsch.*
spretus *Dej.*
fuliginosus *Dej.*
versicolor *Kirby.*
var. fuscipennis *Lec.*
plebejus *Dej.*
versicolor var.‡ *Kirby.*
fuscatus *Dej.*
conjunctus *Lec.*
Trechus con. *Say.*
Acupalpus misellus *Dej.*
var. Ac. rotundicollis *Hald.*
var. Ac. lugubris *Hald.*
rotundatus *Lec.* n. sp.

§

flavipes *Lec.*
ochropezus *Dej.*
Feronia ochr. *Say.*
var. S. convexicollis *Lec.*
anceps *Lec.*
rotundicollis *Motsch.*
dissimilis *Dej.*
cincticollis *Lec.*
unicolor *Dej.*

§ ACUPALPUS Dej.

humilis (*Dej.*)
partiarius *Lec.*
Trechus part. *Say.*
Ac. pauperculus *Dej.*
Ac. consimilis *Dej.*
testaceus (*Dej.*)
Ac. micros *Lec.*
californicus *Lec.*
neglectus *Lec.*
Geobaenus neg. *Lec.*
tantillus (*Dej.*)
difficilis (*Dej.*)
hydropicus *Lec.* n. sp.
carus *Lec.* n. sp.
longulus (*Dej.*)

Philodes Lec.

alternans *Lec.*
Badister testaceus *Lec.*
Aepus testaceus *Lec.*
Stenolophus test.|| *Lec.*
tener *Lec.*
Stenolophus tener *Lec.*

POGONINI.

Patrobus Dej.

longicornis *Say.*
Feronia long. *Say.*
P. americanus *Dej.*
tenuis *Lec.*
Pterostichus ten. *Lec.*
hyperboreus *Dej.*
fossifrons *Dej.*
longiventris *Mann.*
rufipes *Lec.* n. sp.
fulvus *Mann.* —
angusticollis *Mann.* —
foveicollis *Dej.*

angicollis *Randall.*
aterrimus *Dej.*
californicus *Motsch.*

TRECHINI.

Anophthalmus St.

tellkampfii *Er.*
angulatus *Lec.* n. sp.

Trechus Claivr.

rubens *Schiödte.*
  Carabus rub. *Fabr.*
  T. paludosus *Sturm.*
micans *Lec.*
  Epaphius mic. *Lec.*
  var. E. fulvus *Lec.*
californicus *Motsch.*
chalybeus *Mann.*
ovipennis *Motsch.*
laevigatus *Lec.*[1]

BEMBIDIINI.

Anillus Duval.

debilis *Lec.*

Lymnaeum Steph.

laticeps *Lec.*

Bembidium Latr.

punctatostriatum *Say.*
  stigmaticum *Dej.*
  ?sigillare *Say.*
impressum *Gyll.*
  Carabus imp. *Fabr.*
paludosum *Sturm.*
a. **lacustre** *Lec.*
inaequale *Say.*
  arenarium *Dej.*

§ Odontium Lec.

carinatum *Lec.*
sculpturatum (*Motsch.*)
coxendix *Say.*
nitidulum *Dej.*
  an praec. var.?

§ Eudromus Kirby.

nitidum (*Kirby.*)
obliquulum *Lec.*
  var. aptum *Lec.*
erasum *Lec.*

§

bifossulatum *Lec.*
  Ochthedromus bif. *Lec.*
americanum *Dej.*
dilatatum *Lec.*
  Ochthedromus dil. *Lec.*
antiquum *Dej.*
  var. O. basalis *Lec.*
  ?B. honestum *Say.*
chalceum *Dej.*

§

salebratum *Lec.*
  Ochthedromus sal. *Lec.*
  var. O. purpurascens *Lec.*
longulum *Lec.*
  Ochthedromus long. *Lec.*
  var. O. subaeneus *Lec.*
quadrulum *Lec.*
recticolle *Lec.* n. sp.

§

nigrum *Say.*

§

planatum *Lec.*
  Ochthedromus pl. *Lec.*
simplex *Lec.*
planiusculum *Mann.*
complanulum *Lec.*
  Peryphus comp. *Mann.*
incertum *Mann.*
  Notaphus incert. *Motsch.*
tetraglyptum *Lec.*
  Peryphus tetr. *Mann.*
kuprianovi *Mann.* —
biimpressum *Mann.* —
breve *Mann.* —
4-foveolatum *Mann.* —
funereum *Lec.*
maeklini *Lec.*
  incertum var.‡ *Mann.*
nebraskense *Lec.* n. sp.

§ Peryphus Meg.

fugax *Lec.*
  Ochthedromus f. *Lec.*
  Och. planipennis *Lec.*
planum *Lec.*
  Peryphus pl. *Hald.*
perspicuum *Lec.*
  Ochthedromus per. *Lec.*
transversale *Dej.*
  var. Och. compar *Lec.*
mannerheimii *Lec.*
  Ochthedromus mann. *Lec.*
  B. transversale‡ *Mann.*
  Peryphus erosus *Motsch.*
lugubre *Lec.*
parallelocolle (*Mot.*) —

§ Peryphus Meg.

striola *Lec.*
  Ochthedromus str. *Lec.*
bimaculatum (*Kirby.*)
sordidum (*Kirby.*) —
subinflatum (*Motsch.*) —
lucidum *Lec.*
  Ochthedromus luc. *Lec.*
  var. O. substrictus *Lec.*
rupestre *Dej.*
  Carabus rup. *Fabr.*
  B. tetracolum *Say.*
  var. rupicola *Kirby.*
mixtum *Lec.*
  Per. lucidus var. b‡ *Mann.*
picipes (*Kirby.*)
concolor (*Motsch.*) —
gelidum *Lec.*
  Ochthedromus gel. *Lec.*
postremum *Say.*
  Per. scopulinus *Kirby.*
aratum *Lec.*
  Ochthedromus ar. *Lec.*
grapii *Gyll.*
nitens *Lec.*
  Ochthedromus nit. *Lec.*
  Per. picipes‡ *Mann.*
dyschirinum *Lec.*

§

spectabile *Lec.*
  Trechus spect. *Mann.*
oblongulum *Lec.*
  Trechus obl. *Mann.*

§ Notaphus Meg.

insulatum *Lec.*
  Ochthedromus ins. *Lec.*
cordatum *Lec.*
  Ochthedromus cord. *Lec.*
laticolle *Lec.*
  Ochthedromus lat. *Lec.*
laterimaculatum (*Mot.*) —
undulatum *Sturm.*
incrematum *Lec.*
  nigripes‡ *Mann.*
obtusangulum *Lec.* n. sp.
approximatum *Lec.*
  Ochthedromus app. *Lec.*
  N. flammulipennis *Motsch.*
  var. O. consentaneus *Lec.*
indistinctum *Dej.*
fraternum *Lec.*
viridicolle (*Ferté.*)
variolosum (*Motsch.*)
dorsale *Say.*

---

[1] *T. oblongulus* and *T. spectabilis* Mann. belong to Bembidium.

umbratum *Lec.*
Ochthedromus umb. *Lec.*
intermedium (*Kirby.*) —
nigripes (*Kirby.*)
?N. quadricollis *Mann.*
obscuromaculatum (*Motsch.*) —
tesselatum *Lec.*
Ochthedromus tess. *Lec.*
aeneicolle *Lec.*
Ochthedromus aen. *Lec.*
patruele *Dej.*
vix a seq. differt.
variegatum *Say.*
var. N. posticus *Hald.*
rapidum *Lec.*
Ochthedromus rap. *Lec.*
versicolor *Lec.*
Ochthedromus vers. *Lec.*
N. variegatus‖ *Kirby.*
var. Och. mimus *Lec.*
?var. Och. timidus *Lec.*
pictum *Lec.*
Ochthedromus pict. *Lec.*
constrictum *Lec.*
Ochthedromus cons. *Lec.*
Bemb. contractum‡ *Dej.*
contractum *Say.*
ephippiger *Lec.*
Ochthedromus eph. *Lec.*
morlum *Lec.* n. sp.
grandicolle *Lec.*
Ochthedromus gr. *Lec.*
vile *Lec.*
Ochthedromus vilis *Lec.*

§

sexpunctatum *Lec.*
Ochthedromus sexp. *Lec*

§

sulcatum *Lec.*
Ochthedromus sulc. *Lec.*
var. O. trepidus *Lec.*
fortistriatum *Mann.* —
Omala fort. *Motsch.*
an a praec. diff.?

§ Leia Meg.

affine *Say.*
fallax *Dej.*
decipiens *Dej.*
dubitans *Lec.*
Ochthedromus d. *Lec.*
crurale *Lec.*
Ochthedromus cr. *Lec.*
angulifer *Lec.*
Ochthedromus ang. *Lec.*
?Omala polita *Motsch.*
connivens *Lec.*
Ochthedromus conn. *Lec.*
cautum *Lec.*
Ochthedromus c. *Lec.*
frontale *Lec.*
Ochthedromus f. *Lec.*
mundum *Lec.*
Ochthedromus m. *Lec.*
Lopha bifasciata *Motsch.*

§ Lopha Meg.

axillare *Lec.*
Ochthedromus ax. *Lec.*
quadrimaculatum *Gyll.*
Cicindela qu. *Linn.*
Bemb. oppositum *Say.*
pedicellatum *Lec.*

§

semistriatum *Lec.*
Leia semis. *Hald.*

§ Hydrium Lec.

laevigatum *Say.*

§

trechiforme *Lec.*
Ochthedromus tr. *Lec.*
iridescens *Lec.*
Ochthedromus ir. *Lec.*

Tachys Ziegler.

vittiger *Lec.*
var. marginellus *Lec.*
mordax *Lec.*
proximus *Lec.*
Bembidium pr. *Say.*
virgo *Lec.*
scitulus *Lec.*
vorax *Lec.*
pumilus (*Dej.*)
sequax *Lec.*
corruscus *Lec.*
corax *Lec.*
edax *Lec.*
albipes *Lec.* n. sp.
ventricosus *Lec.* n. sp.
laevus *Lec.*
Bembidium laev. *Say.*
B. (T.) troglodytes *Dej.*
misellus *Ferté.* —
aenescens *Lec.*
Blemus aen. *Lec.*

§ Tachyta Kirby.

nanus *Schaum.*
Bembidium n. *Gyll.*
B. inornatum *Say.*
Tachyta picipes *Kirby.*
rivularis *Mann.*
flavicauda *Lec.*
Bembidium flav. *Say.*
nigriceps (*Dej.*) —

§

tripunctatus *Lec.*
Bembidium tr. *Say.*
vivax *Lec.*
var. mendax *Lec.*
capax *Lec.* n. sp.
xanthopus (*Dej.*)
anthrax *Lec.*
ferrugineus (*Dej.*)
truncorum *Hald.*
obesulus *Lec.*
incurvus *Lec.*
Bembidium inc. *Say.*
B. (T.) granarium *Dej.*
var. T. anceps. *Lec.*
pulchellus *Ferté.*
dolosus *Lec.*
audax *Lec.*
rapax *Lec.*
occultus *Lec.*

Pericompsus Lec.

sellatus *Lec.*
ephippiatus *Lec.*
Bembidium eph. *Say.*
laetulus *Lec.*

AMPHIZOIDAE.

Amphizoa Lec.

insolens *Lec.*

DYTISCIDAE.

HALIPLIDAE.

Haliplus Latr.

fasciatus *Aubé.*
triopsis *Say.*
pantherinus *Aubé.* —
punctatus *Aubé.*
borealis *Lec.*
concolor *Lec.*
nitens *Lec.*
cribrarius *Lec.*
immaculicollis *Harris.*
americanus *Aubé.*
?impressus‡ *Kirby.*
longulus *Lec.*

Cnemidotus Ill.

callosus *Lec.*
simplex *Lec.*
12-punctatus *Aubé.*
Halipus duod. *Say.*
muticus *Lec.* n. sp.
edentulus *Lec.* n. sp.

DYTISCIDAE (genuini).

HYDROPORINI.

Hydroporus Clairv.

hydropicus *Lec.*
punctatus *Aubé.*
Laccophilus punct. *Say.*
Hyphidrus punct. *Harris.*
cuspidatus *Germ.*
Hygrotus pustulatus *Mels.*
latissimus *Lec.*
acaroides *Lec.*
contractulus *Mann.* —
convexus *Aubé.*
var. granum *Lec.*
farctus *Lec.*
exiguus *Aubé.* —
an rite Am. bor.?
obscurellus *Lec.*
affinis *Say.*
nanus *Aubé.*
erythrostomus *Mann.*
macularis *Lec.*
pullus *Lec.*
lacustris *Say.*
pulicarius *Aubé.*
cinctellus *Lec.*
amandus *Lec.*
subtilis *Lec.*
inconspicuus *Lec.*
granarius *Aubé.*
flavicollis *Lec.*
duodecimlineatus *Lec.*
?laevis *Kirby.*
alpinus *Payk.* (f. White).
scitulus *Lec.*
striatellus *Lec.*
eximius *Motsch.*
pulcher *Motsch.* —
rotundatus *Lec.* n. sp.
venustus *Lec.*
striatopunctatus *Mels.*
consimilis *Lec.*
undulatus *Say.*
fasciatus *Harris.*
♂ pubipennis *Aubé.*
♀ velutinus *Aubé.*
oppositus *Say.*
?proximus *Aubé.*
punctatissimus *Aubé.*
spurius *Lec.*
mixtus *Lec.*
sericeus *Lec.*
semirufus *Lec.*
lineolatus *Lec.*
vittatus *Lec.*
vitiosus *Lec.*
oblongus *Aubé.*
catascopium *Say.*
interruptus *Say.*
parallelus *Say.*
griseostriatus *Steph.*
Dytiscus gr. *De Geer.*
humeralis *Mann.*
signatus *Mann.*
modestus *Aubé.*
ruficeps *Aubé.*
axillaris *Lec.*
humeralis‖ *Lec.*
fortis *Lec.*
notabilis *Lec.*
niger *Say.*
subpubescens *Lec.*
♀ hirtellus *Lec.*
truncatus *Mann.* —
tartaricus *Lec.*
americanus *Aubé.*
dichrous *Mels.*
?discicollis *Say.*
puberulus‖ *Mann.*
caliginosus *Lec.*
subtonsus *Lec.*
rufinasus *Mann.*
varians *Lec.*
ruficapillus *Mann.*
puberulus *Lec.*
nigellus *Mann.*
planatus *Mann.* —
tenebrosus *Lec.*
lutulentus *Lec.*
luridipennis‖ *Lec.*
an praec. var.?
vilis *Lec.*
oblitus *Aubé.*
luridipennis *Mels.*
♀ limbalis *Mels.*
collaris *Lec.*
latebrosus *Lec.*
concinnus *Lec.*
pulcher *Lec.*
conoideus *Lec.*
difformis *Lec.*
similis *Kirby.*
picatus *Kirby.*
dispar *Lec.*
decemlineatus *Mann.*
quadrilineatus *Mann.*
turbidus *Lec.*
suturalis *Lec.*
ovoideus *Lec.*
medialis *Lec.*
?Hyg. impressifrons *Motsch.*
fraternus *Lec.*
patruelis *Lec.*
nigrolineatus *Steph.* —
lutescens *Lec.*
nubilus *Lec.*
discoideus *Lec.*
aulicus *Aubé.* —
hybridus *Lec.*
mellitus *Lec.*

Celina Aubé.

grossula *Lec.* n. sp.
angustata *Aubé.*

NOTERINI.

Colpius Lec.

inflatus *Lec.* n. sp.

Suphis Aubé.

bicolor *Lec.*
Noterus bicolor *Say.*
S. gibbulus *Aubé.*

Hydrocanthus Say.

iricolor *Say.*
atripennis *Say.*
nanulus *Lec.* n. sp.

COLYMBETINI.

Laccophilus Leach.

maculosus *Say.*
Dytiscus mac. *Germ.*
truncatus *Mann.*
californicus *Motsch.*
fasciatus *Aubé.*
var. rufus *Mels.*
?biguttatus *Kirby.*
proximus *Say.*
americanus *Aubé.*
undatus *Aubé.*
gentilis *Lec.* n. sp.

Coptotomus Say.

difficilis *Lec.*
interrogatus *Aubé.*
Dytiscus int. *Fabr.*
Colymbetes venustus *Say.*
?Copt. serripalpis *Say.*
longulus *Lec.*

Matus Aubé.

bicarinatus *Aubé.*
Colymbetes bicar. *Say.*

Copelatus Er.

glyphicus *Lec.*
Colymbetes glyph. *Say.*
Cop. decemstriatus *Aubé.*

punctulatus *Aubé.*
chevrolatii *Aubé.*

Anisomera Aubé.

cordata *Lec.*

Agabus Leach (em. Er.)

subopacus *Mann.* —
parallelus *Lec.*
hypomelas *Mann.*
seriatus *Lec.*
Colymbetes seriatus *Say.*
Ag. striatus *Aubé.*
Ag. arctus *Mels.*
obsoletus *Lec.*
aeruginosus *Aubé.*
punctatus *Mels.*
punctulatus *Aubé.*
laevidorsus *Lec.*
discolor *Lec.*
Colymbetes disc. *Harris.*
—**morulus** *Lec.*
glabrellus. —
Colymbetes gl. *Motsch.*
taeniolatus *Lec.*
Colymbetes taen. *Harris.*
Ag. taeniatus *Aubé.*
lineellus *Lec.*
semipunctatus *Lec.*
Colymbetes sem. *Kirby.*
confertus *Lec.*
semivittatus *Lec.*
var. spilotus *Lec.*
stagninus *Lec.*
Colymbetes st. *Say.*
Ag. striola *Aubé.*
gagates *Aubé.*
nitidus *Lec.*
Colymbetes nit. *Say.*
obtusatus *Lec.*
Colymbetes obt. *Say.*
—**regularis** *Lec.*
Ilybius reg. *Lec.*
lugens *Lec.*
brevicollis *Lec.*
brachynotus *Lec.*
strigulosus *Lec.*
tristis *Aubé.*
var. dubius *Mann.*
scapularis *Mann.*
var. anthracinus *Mann.*
morosus *Lec.*
fimbriatus *Lec.*
reticulatus|| *Aubé.*
intersectus *Lec.*
griseipennis *Lec.*
bifarius *Lec.*
Colymbetes bif. *Kirby.*
inscriptus *Lec.*

acuductus *Lec.*
Colymbetes ac. *Harris.*
Ag. rugulosus *Aubé.*
discors *Lec.*
erythropterus *Aubé.*
Colymbetes er. *Say.*
ovoideus *Lec.*
atratus *Mann.* —
ambiguus *Lec.*
Colymbetes amb. *Say.*
Ag. infuscatus *Aubé.*
lutosus *Lec.*
obliteratus *Lec.*
?Colym. phaeopterus *Kirby.*
Ag. discolor|| *Lec.*
subfasciatus *Lec.*
clavatus *Lec.*
bicolor. —
Colymbetes bic. *Kirby.*
irregularis *Mann.* —
sobrinus. —
Colymbetes sobr. *Motsch.*
fossiger. —
Colymbetes foss. *Motsch.*

Colymbetes Clairv.

§ ILYBIUS Er.

ungularis *Lec.*
biguttulus *Lec.*
Dytiscus big. *Germ.*
Col. fenestralis|| *Say.*
Ilybius fen. *Aubé.*
var. Il. pleuriticus *Lec.*
quadrimaculatus (*Aubé.*)
fraterculus *Lec.*
laramaeus (*Lec.*)
picipes *Kirby.*
ignarus *Lec.*
sinuatus *Lec.*
?oblongus. —
Ilyobius obl. *Motsch.*
an Ag. brevicollis *Lec.* ?

§ MELADEMA Lap.

angustus *Lec.*
Agabus ang. *Lec.*

§ CYMATOPTERUS Esch.

obscuratus (*Mann.*)
seminiger *Lec.*
longulus *Lec.*
strigosus *Lec.*
exaratus *Lec.*
sculptilis *Harris.*
triseriatus *Kirby.*
densus *Lec.*
dolabratus *Payk.*
groenlandicus *Aubé.*
drewsenii *Lec.*

§

binotatus *Harris.*
maculicollis *Aubé.*
divisus *Aubé.*
consimilis. —
Rhantus cons. *Motsch.*
agilis *Aubé.*
Dytiscus agilis *Fabr.*
calidus *Aubé.*
Dytiscus cal. *Fabr.*
Col. taeniolis *Say.*
Hydat. meridionalis *Mels.*

DYTISCINI.

Hydaticus Leach.

bimarginatus *Lec.*
Dytiscus bim. *Say.*
Hyd. fulvicollis *Aubé.*
cinctipennis *Aubé.*
piceus *Lec.* n. sp.

§ GRAPHODERUS Esch.

fascicollis *Harris.*
Hyd. zonatus var. *Aubé.*
liberus *Lec.*
Dytiscus lib. *Say.*
D. (H.) thoracicus *Harris.*
Colymb. rugicollis *Kirby.*

§ THERMONECTES Esch.

ornaticollis *Lec.*
Acilius orn. *Aubé.*
Therm. irroratus *Mels.*
latecinctus *Lec.*
Acilius lat. *Lec.*
basillaris *Lec.*
Dytiscus bas. *Harris.*
Acilius incisus *Aubé.*
Therm. nimbatus *Mels.*
marmoratus *Aubé.*
Colymbetes marm. *Hope.*
Hyd. flavomaculatus *Chevr.*
Acilius maculatus|| *Lec.*

Acilius Leach.

mediatus *Aubé.*
Dytiscus med. *Say.*
Col. maccullochii *Kirby.*
simplex *Lec.*
latiusculus *Lec.*
abbreviatus *Mann.*
fraternus *Lec.*
Dytiscus frat. *Harris.*
Ac. semisulcatus *Aubé.*

Eunectes Er.

sticticus *Er.*
Dytiscus stict. *Linn.*
Dyt. griseus *Fabr.*

Dytiscus Linn.

- **confluens** *Say.*
  - ooligbukii *Kirby.*
  - var. franklinii *Kirby.*
- a. **ventralis** *Motsch.*
- **fuscostriatus** *Motsch.* —
- **anxius** *Mann.*
- **parvulus** *Mann.*
- **marginicollis** *Lec.*
  - var. albionicus *Motsch.*
- **cordieri** *Aubé.*
- **sublimbatus** *Lec.*
- **fasciventris** *Say.*
  - carolinus *Aubé.*
- **harrisii** *Kirby.*
- **verticalis** *Say.*
- **hybridus** *Aubé.*
  - compar *Mels.*

Cybister Curtis.

- **fimbriolatus** *Mels.*
  - Dytiscus fimb. *Say.*
  - Cyb. dissimilis *Aubé.*
- **ellipticus** *Lec.*
- **explanatus** *Lec.*

GYRINIDAE.

Gyrinus Linn.

- **sayi** *Aubé.*
- **aubei** *Lec.*
  - analis‡ *Aubé.*
- **borealis** *Aubé.*
- **impressicollis** *Kirby.*
- **opacus** *Sahlberg.*
- **picipes** *Aubé.*
- **affinis** *Aubé.*
- **plicifer** *Lec.*
- **consobrinus** *Lec.*
- **fuscipes** *Motsch.*
- **marginiventris** *Motsch.*
- **limbatus** *Say.*
- **conformis** *Aubé.*
- **lateralis** *Aubé.*
- **ventralis** *Kirby.*
- **analis** *Say.*
- **dichrous** *Mels.*
- **minutus** *Linn.*[1]

Dineutus McLeay.

- **sublineatus** *Aubé.*
  - ♀ integer *Lec.*
- **vittatus** *Aubé.*
  - Gyrinus vitt. *Germ.*
- **emarginatus** *White.*
  - Gyrinus em. *Say.*
  - D. americanus‡ *Aubé.*
- **opacus** *Mels.*
- **americanus** *White.*
  - Gyrinus am. *Linn.*
  - D. assimilis *Aubé.*
  - Cyclinus assimilis *Kirby.*
- **discolor** *Aubé.*
- **labratus** *Mels.*

Gyretes Brullé.

- **sinuatus** *Lec.*
- **compressus** *Lec.* **n. sp.**

HYDROPHILIDAE.

HELOPHORINI.

Helophorus Fabr.

- **oblongus** *Lec.*
- **lacustris** *Lec.*
- **obscurus** *Lec.*
- **nitidulus** *Lec.*
- **linearis** *Lec.*
- **alternatus** *Lec.*
- **ventralis** *Motsch.*
  - an seq. gens?
- **lineatus** *Say.*
- **obsoletesulcatus** *Mot.*—
- **granularis** *Motsch.* —
- **angustulus** *Mann.*
- **inquinatus** *Mann.*
  - var. consimilis *Mann.*
  - an a seq. diff.?
- **auricollis** *Esch.* —
- **scaber** *Lec.*

Hydrochus Germ.

- **scabratus** *Muls.*
  - gibbosus *Mels.*
- **callosus** *Lec.*
- **squamifer** *Lec.*
- **rugosus** *Muls.*
  - grandis *Motsch.*
- **inaequalis** *Lec.*
- **excavatus** *Lec.*
- **rufipes** *Mels.*
- **foveatus** *Hald.*
- **variolatus** *Lec.*
- **vagus** *Lec.*
- **simplex** *Lec.*

Ochthebius Leach.

- **puncticollis** *Lec.*
- **interruptus** *Lec.*
- **lineatus** *Lec.*
- **cribricollis** *Lec.*
- **nitidus** *Lec.*
- **fossatus** *Lec.*
- **holmbergi** *Mäklin.*

Hydraena Kug.

- **pensylvanica** *Kies.*
- **punctata** *Lec.*
- **marginicollis** *Kies.*

HYDROPHILINI.

Hydrophilus Geoffr.

- **ovalis** *Ziegl.*
- **triangularis** *Say.*[2]
  - tristis *Motsch.*
  - Stethoxus subsulcatus *Lec*

§ TROPISTERNUS Sol.

- **lateralis** *Herbst.*
  - ?lateralis *Fabr.*
  - nimbatus *Say.*
- **limbalis** *Lec.*
  - Trop. marginatus *Motsch.*
  - var. T. humeralis *Motsch.*
- **californicus** *Lec.*
- **sublaevis** *Lec.*
- **glaber** *Herbst.*
- **mixtus** *Lec.*
- **ellipticus** *Lec.*
  - Trop. affinis *Motsch.*
- **striolatus** *Lec.*

Hydrocharis Latr.

- **glaucus** *Lec.*
- **substriatus** *Lec.*
- **obtusatus** *Lec.*
  - Hydrophilus ob. *Say.*
- **castus** *Lec.*
  - Hydrophilus cast. *Say.*

HYDROBIINI.

Berosus Leach.

- **punctatissimus** *Lec.*
- **maculosus** *Mann.* —
  - tesselatus *Motsch.*
- **miles** *Lec.*
- **pugnax** *Lec.* **n. sp.**
- **aculeatus** *Lec.*
- **subsignatus** *Lec.*

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[1] The European *G. aeneus* is, according to Kirby, found in North America.

[2] *H. lugubris* Motsch. is an Arabian, and not a Californian, species: *vide* Bull. Mosc. 1860.

pantherinus *Lec.*
peregrinus *Lec.*
Hydrophilus per. *Herbst.*
Ber. auritus *Mels.*
fraternus *Lec.*
striatus *Say.*
infuscatus *Lec.*
californicus *Motsch.*
punctulatus *Lec.*
exilis *Lec.*
exiguus *Lec.*
Hydrophilus ex. *Say.*
Ber. pallescens *Lec.*

§ VOLVULUS Brullé.

altus *Lec.*

Laccobius Er.

agilis *Randall.*
punctulatus *Mels.*
ellipticus *Lec.*

Sperchopsis Lec.

tesselatus *Lec.*
Spercheus‡ tess. *Zeigler.*

Cyllidium Er.

atrum *Lec.* n. sp.
nigrellum *Lec.*
pallidum *Lec.*
nigriceps *Lec.*

Philhydrus Sol.

§ HELOCHARES Muls.

rotundatus *Lec.*
Hydrophilus rot. *Say.*
fimbriatus *Mels.*
fuscus *Motsch.*
lacustris *Lec.*
simplex *Lec.* n. sp.
imbellis *Lec.*
maculicollis (*Muls.*)

§ PHILHYDRUS Muls.

nebulosus *Lec.*
Hydrophilus neb. *Say.*
pectoralis *Lec.*
maculifrons *Motsch.*
cristatus *Lec.*
?obtusiusculus *Motsch.*
carinatus *Lec.*
diffusus *Lec.*
latiusculus *Motsch.*
perplexus *Lec.*
ochraceus *Mels.*
cinctus *Lec.*
Hydrophilus cinct. *Say.*
Ph. limbalis *Mels.*
bifidus *Lec.*
normatus *Lec.*

Hydrobius Leach.

tumidus *Lec.*
globosus *Lec.*
Hydrophilus gl. *Say.*
insculptus *Lec.*
regularis *Lec.*
seriatus *Lec.*
fuscipes *Curtis.*
Dytiscus fusc. *Linn.*
dorsalis *Motsch.* —
digestus *Lec.*
infuscatus (*Motsch.*) —
subcupreus *Lec.*
Hydrophilus subc. *Say.*
Cyclonotum subc. *Lec.*
despectus *Lec.* n. sp.

SPHAERIDIINI.

Cyclonotum Er.

cacti *Lec.*
estriatum *Er.*
Hydrophilus est. *Say.*
Cyc. globulosum *Muls.*

Cercyon Leach.

pubescens *Lec.*
fimbriatum *Mann.*
flavipes *Er.*
nigricolle *Lec.*
Sphaeridium nig. *Say.*
lunigerum *Mann.*
limbatum *Mann.*
fulvipenne *Mann.*
centrimaculatum *Er.*
Cerc. mundum *Mels.*
praetextatum *Say.*
adumbratum *Mann.*
ocellatum *Mels.*
Sphaeridium oc. *Say.*
anale *Er.*
maculatum *Mels.*
apicale *Mels.*
Sphaeridium ap. *Say.*
posticatum *Mann.*
nanum *Mels.*
minusculum *Mels.*

§ PELOSOMA Muls.

capillatum *Lec.*

Megasternum Muls.

costatum *Lec.*

Cryptopleurum Muls.

vagans *Lec.*[1]

SILPHIDAE.

SILPHIDAE (genuini).

SILPHINI.

Necrophorus Fabr.

mediatus *Fabr.*
marginatus *Fabr.*
melsheimeri *Kirby.*
guttula *Motsch.*
americanus *Oliv.*
grandis *Fabr.*
pustulatus *Herschel.*
bicolon *Newm.*
nigrita *Mann.*
pollinctor *Lec.*
mortuorum *Fabr.*
pygmaeus *Kirby.*
crispetus *Motsch.*
orbicollis *Say.*
hallii *Kirby.*
var. tibialis *Lec.*
lunatus *Lec.*
confossor *Lec.*
tardus *Mann.* —
maritimus *Mann.*
var. infodiens *Mann.*
var. pollinctor‖ *Mann.*
var.? labiatus *Motsch.* —
defodiens *Mann.*
velutinus *Fabr.*
tomentosus *Weber.*
obscurus *Kirby.* —
hebes *Kirby.* —

Silpha Linn.

§ NECRODES Wilkin.

surinamensis *Fabr.*

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[1] *Sphaeridium pallidum, laeve,* and *unistriatum* Beauv. cannot be identified by the figures and descriptions: the first two, according to Chevrolat, are *Camptodes.* If this determination be correct, they are not found within our territories.

§ THANATOPHILUS Leach.

lapponica *Herbst.*
caudata *Say.*
tuberculata *Germ.*
granigera *Chevr.*
truncata *Say.*
marginalis *Fabr.*
noveboracensis *Forster.*
inaequalis *Fabr.*
trituberculata *Lec.*
Oiceoptoma (T.) trit. *Kirby.*
Silpha sagax *Mann.*

§ NECROPHILA Kirby.

peltata *Lec.*
Scarabaeus pelt. *Catesby.*
Silpha americana *Linn.*
var. O. terminatum *Kirby.*
var. O. affine *Kirby.*
var. O. canadense *Kirby.*

§

ramosa *Say.*
α. cervaria *Mann.*
bituberosa *Lec.*

Necrophilus Latr.

hydrophiloides *Mann.*
ater *Motsch.*
latus *Mann.*
longulus *Lec.*
tenuicornis *Lec.*

Pteroloma Dej.

forstroemii *Dej.*

§ LYROSOMA Mann.

opaca (*Mann.*)

Adelops Tellkampf.

hirtus *Tellk.*

Catoptrichus Murray.

frankenhaeuseri *Mur.*
Catops fr. *Mann.*

Catops Fabr.

opacus *Say.*
luridipennis *Mann.*
simplex *Say.*
brunnipennis *Mann.*
spencianus *Murray.*
Choleva spenc. *Kirby.*
Cat. cadaverinus *Mann.*
clavicornis *Lec.*
californicus *Lec.*
consobrinus *Lec.*
lecontei *Murray.*
strigosus‖ *Lec.*
terminans *Lec.*
oblitus *Lec.*
brachyderus *Lec.* n. sp.
parasitus *Lec.*
cryptophagoides *Mann.*
basillaris *Say.* —
an C. spencianus?

Colon Herbst.

dentatus *Lec.*
inermis *Maekl.* —
magnicollis *Maekl.* —
clavatus *Maekl.* —

SPHAERITINI.

Sphaerites Duftsch.

glabratus *Mann.*

ANISOTOMINI.

Hydnobius Schmidt.

punctostriatus *Mann.* —
Leiodes punct. *Kirby.*
substriatus *Lec.* n. sp.

Anisotoma Ill.

alternata *Lec.*
Leiodes alt. *Mels.*
assimilis *Lec.*
indistincta *Lec.*
collaris *Lec.*
strigata *Lec.*
obsoleta *Lec.*
Pallodes obs. *Mels.*
lateritia *Mann.* —
laeta *Mann.* —
curvata *Mann.* —
?pallida. —
Agathidium pall. *Say.*

Cyrtusa Er.

egena *Lec.*

Colenis Er.

impunctata *Lec.*
?laevis *Lec.*

Liodes Latr.

globosa *Lec.*
Cyrtusa gl. *Lec.*
polita *Lec.*
discolor *Mels.*
basalis *Lec.*
dichroa *Lec.*

Amphicyllis Er.

picipennis *Lec.* n. sp.

Agathidium Ill.

oniscoides *Beauv.*
piceum *Mels.*
exiguum *Mels.*
ruficorne *Lec.*
revolvens *Lec.*
angulare *Mann.*
concinnum *Mann.*
pulchrum *Lec.*
effluens *Mann.*
difforme *Lec.*
rotundulum *Mann.*
mandibulatum *Mann.* —

CLAMBINI.

Empelus Lec.

brunnipennis *Lec.*
Litochrus‡ brunn. *Mann.*

Calyptomerus Redt.

oblongulus *Lec.*
Clambus oblong. *Mann.*

Clambus Fischer.

puberulus *Lec.* n. sp.
gibbulus *Lec.*
Sternuchus gibb. *Lec.*

BRATHINIDAE.

Brathinus Lec.

nitidus *Lec.*
varicornis *Lec.*

SCYDMAENIDAE.

Microstemma Motsc.

grossa *Lec.* n. sp.
motschulskii *Lec.* n. sp.

Eumicrus Lap.

zimmermanni *Lec.*
Scydmaenus zim. *Schaum.*

Scydmaenus Latr.

subpunctatus *Lec.*
mariae *Lec.*
cribrarius *Lec.*
perforatus *Schaum.*
sparsus *Lec.*

angustus *Lec.*
cautus *Lec.*
magister *Lec.*
  schaumii|| *Lec.*
flavitarsis *Lec.*
fossiger *Lec.*
capillosulus *Lec.*
basalis *Lec.*
hirtellus *Lec.*
analis *Lec.*
brevicornis *Say.*
rasus *Lec.*
obscurellus *Lec.*
clavatus *Lec.*
pyramidalis *Lec.* n. sp.
clavipes *Say.*
consobrinus *Lec.*
bicolor *Lec.*
salinator *Lec.*
fatuus *Lec.*
misellus *Lec.*
gravidus *Lec.*
fulvus *Lec.*
gracilis *Lec.*
biformis *Maeklin.* —
californicus *Motsch.* —

Eutheia Stephens.

scitula *Maeklin.* —

Cephennium Müller.

corporosum *Lec.*

PSELAPHIDAE.

CLAVIGERIDAE.

Adranes Lec.

coecus *Lec.*

PSELAPHIDAE(genuini).

PSELAPHINI.

Ceophyllus Lec.

monilis *Lec.*

Cedius Lec.

ziegleri *Lec.*
spinosus *Lec.*

Tmesiphorus Lec.

carinatus *Lec.*
  Ctenistes car. *Say.*
costalis *Lec.*

Ctenistes Reichenb.

piceus *Lec.*
pulvereus *Lec.*
zimmermanni *Lec.*
consobrinus *Lec.*

Tyrus Aubé.

humeralis *Lec.*
  Hamotus hum. *Aubé.*
  Tyrus compar *Lec.*

Circocerus Motsch.

batrisoides *Lec.* n. sp.

Pselaphus Herbst.

longiclavus *Lec.*
erichsonii *Lec.*

Tychus Leach.

puberulus *Lec.*
tenellus *Lec.*
longipalpus *Lec.*
minor *Lec.*

Bryaxis Leach.

conjuncta *Lec.*
dentata *Lec.*
  Pselaphus dent. *Say.*
abdominalis *Aubé.*
  dentata‡ *Aubé.*
haematica *Leach.*
  an rite Am. bor. ?
luniger *Lec.*
albionica *Motsch.* —
puncticollis *Lec.*
compar *Lec.*
subtilis *Lec.*
foveata *Lec.*
rubicunda *Lec.*
propinqua *Lec.*
tomentosa *Lec.*

§

abnormis *Lec.*
velutina *Lec.*
longula *Lec.*
formiceti *Lec.*

Eupsenius Lec.

glaber *Lec.*
rufus *Lec.* n. sp.

Batrisus Aubé.

ionae *Lec.*
armiger *Lec.*
monstrosus *Lec.*
ferox *Lec.*
cristatus *Lec.*
confinis *Lec.*
frontalis *Lec.*
schaumii *Aubé.*
  punctatus *Lec.*
riparius *Aubé.*
  Pselaphus rip. *Say.*
scabriceps *Lec.*
nigricans *Lec.*
striatus *Lec.*
globosus *Lec.*
spretus *Lec.*
albionicus *Aubé.*
aculeatus *Lec.* n. sp.
bistriatus *Lec.*
lineaticollis *Aubé.*

§ ARTHMIUS Lec.

globicollis (*Lec.*)

EUPLECTINI.

Rhexius Lec.

insculptus *Lec.*

Trimium Aubé.

clavicorne *Maeklin.* —
globifer *Lec.*
  Euplectus gl. *Lec.*
dubium *Lec.*
  Euplectus dub. *Lec.*
parvulum *Lec.*
  Euplectus parv. *Lec.*
americanum *Lec.* n. sp.

Euplectus Leach.

linearis *Lec.*
confluens *Lec.*
interruptus *Lec.*
difficilis *Lec.*
cavifrons *Lec.* n. sp.
pumilus *Lec.*
arcuatus *Lec.*
ruficeps *Lec.* n. sp.
canaliculatus *Lec.*

Faronus Aubé.

tolulae *Lec.*
isabellae *Lec.*
parviceps *Lec.*
  Euplectus parv. *Maeklin.*

STAPHYLINIDAE.

STAPHYLINIDAE (genuini).

ALEOCHARINI.

Falagria Mann.

dissecta *Er.*
venustula *Er.*
bilobata. —
Aleochara bilo. *Say.*

Phytosus Curtis.

opacus *Lec.* n. sp.

Hoplandria Kraatz.

pulchra *Kraatz.*
ochracea *Kraatz.*

Homalota Mann.

plana *Er.*
Aleochara pl. *Gyll.*
trimaculata *Er.*
aemula *Er.*
dichroa *Er.*
Aleochara dichr. *Grav.*
vestigialis *Er.*
festinans *Er.*
luteola *Er.*
flaveola *Mels.*
silacea *Er.*
recondita *Er.*
ambigua *Er.*
polita *Mels.*
modesta *Mels.*
analis *Grav.*
lividipennis *Er.*
Oxypoda liv. *Mann.*
pedicularis *Lec.*
Oligota ped. *Mels.*
lateralis *Lec.*
Gyrophaena lat. *Mels.*
granularis *Mann.*
maritima *Mann.*
picipennis *Mann.*
laevicollis *Mäkl.* —
cursor *Mäkl.* —
nitens *Mäkl.* —
moesta *Mäkl.* —
pratensis *Mäkl.* —
geniculata *Mäkl.* —
planaris *Mäkl.* —
breviuscula *Mäkl.* —
comparabilis *Mäkl.*
littoralis *Mäkl.*
vasta *Mäkl.* —
fucicola *Mäkl.*
Tachyusa fuc. *Mäkl.*
?indenta (*Say*).
?propera (*Say*).
Aleochara prop. (*Say*).
?falsifica (*Say*).
?simplicicollis (*Say*).
?minima (*Say*).
?quadripunctata (*Say*).
?pallitarsis (*Kirby*).

Stenusa Kraatz.

alternans *Kraatz.*
Silusa alt. *Sachse.*
gracilis *Kraatz.*
Silusa grac. *Sachse.*

Placusa Er.

despecta *Er.*

Tachyusa Er.

pygmaea *Kraatz.* —
Myrmedonia pyg. *Sachse.*
cavicollis *Lec.* n. sp.
nigrella *Lec.* n. sp.
baltifera *Lec.* n. sp.
gracillima *Lec.* n. sp.

Bolitochara Mann.

notata *Mäkl.* —

Philotermes Kraatz.

pilosus *Kraatz.* —
pensylvanicus *Kraatz.*
fuchsii *Kraatz.*

Myrmedonia Er.

angularis *Mäkl.* —

Atemeles Steph.

cava *Lec.* n. sp.

Aleochara Grav.

valida *Lec.*
fuscipes *Grav.*
Staphylinus fusc. *Fabr.*
Al. lustrica *Say.*
bimaculata *Grav.*
castaneipennis *Mann.*
sulcicollis *Mann.*
cognata *Mäkl.*
nitida *Grav.*
verna *Say.*
languida *Sachse.* —

Oxypoda Mann.

sagulata *Er.*
irrasa *Mäkl.*
minuta *Sachse.*

Phloeopora Er.

latens *Er.*

Gyrophaena Mann.

vinula *Er.*
Aleoch. fasciata|| *Say.*
dissimilis *Er.*
flavicornis *Mels.*
geniculata *Mäkl.*
corruscula *Er.*
socia *Er.*

Myllaena Er.

fuscipennis *Kraatz.*

Dinopsis Matthews.

americanus *Kraatz.*
myllaenoides *Kraatz.*

TACHYPORINI.

Hypocyptus Mann.

ziegleri *Lec.* n. sp.
testaceus *Lec.* n. sp.
?depressus *Lec.* n. sp.

Leucoparyphus Kraatz.

silphoides *Kraatz.*
Staphylinus silph. *Linn.*
Tachinus silph. *Gyll.*
T. geminatus *Randall.*
Cilea silph. *Duval.*
discoideus *Lec.*
Tachinus disc. *Mels.*

Coproporus Kraatz.

grossulus *Lec.* n. sp.
punctipennis *Lec.* n. sp.
ventriculus *Kraatz.*
Tachinus ventr. *Er.*
var. T. punctulatus *Mels.*
laevis *Lec.* n. sp.

Tachinus Grav.

luridus *Er.*
colonus *Sachse.* —
an fumipennis?
rufus *Sachse.* —

memnonius *Grav.*
batychrous *Grav.*
fumipennis *Er.*
Tachyporus fum. *Say.*
T. axillaris *Er.*
maculicollis *Maekl.*
propinquus *Mann.*
nigricornis *Mann.*
instabilis *Maekl.*
frigidus *Er.*
picipes *Er.*
fimbriatus *Grav.*
circumcinctus *Maekl.*
limbatus *Mels.*
apterus *Maekl.* —

Tachyporus Grav.

acaudus *Say.*
jocosus *Say.*
arduus *Er.*
brunneus *Er.*
Oxyporus br. *Fabr.*
T. faber *Say.*
nanus *Er.*
acuductus *Kirby.* —
affinis *Kirby.* —

Conosoma Kraatz.

crassum *Lec.*
Tachyporus cr. *Grav.*
Conurus|| cr. *Er.*
basale *Lec.*
Conurus bas. *Er.*
C. pulicarius *Sachse*
opicum *Lec.*
Tachyporus op. *Say.*
Conurus cinctulus *Er.*

Boletobius Leach.

niger *Er.*
Tachinus niger *Grav.*
axillaris *Er.*
Tachinus ax. *Grav.*
poecilus *Mann.* —
biseriatus *Mann.* —
pygmaeus *Mann.*
Oxyporus pyg. *Fabr.*
Tach. trimaculatus|| *Say.*
B. venustus *Mels.*
var. B. binotatus *Mels*
cincticollis *Er.*
Tachinus cinct. *Say.*
dimidiatus *Er.*
obsoletus *Er.* —
Tachinus obs. *Say.*
sellatus *Sachse.* —
cinctus *Er.*
Tachinus cinct. *Grav.*
T. atricapillus *Say.*

angularis *Sachse.*
gentilis *Lec.* n. sp.
rostratus *Lec.* n. sp.
longiceps *Lec.* n. sp.

Bryoporus Kraatz.

flavipes *Lec.* n. sp.
rubidus *Lec.* n. sp.
rufescens *Lec.* n. sp.
testaceus *Lec.* n. sp.

Mycetoporus Mann.

lepidus *Mann.*
Tachinus lep. *Grav.*
T. humidus *Say.*
americanus *Er.*
insignis *Maekl.* —
nigrans *Maekl.* —
flavicollis *Lec.* n. sp.
lucidulus *Lec.* n. sp.
consors *Lec.* n. sp.

STAPHYLININI.

Acylophorus Nordm.

flavicollis *Sachse.*
pronus *Er.*
gilensis *Lec.* n. sp.
pratensis *Lec.* n. sp.

Euryporus Er.

puncticollis *Er.*

Heterothops Steph.

fusculus *Lec.* n. sp.
fumigatus *Lec.* n. sp.
californicus *Lec.* n. sp.
pusio *Lec.* n. sp.

Quedius Stephens.

explanatus *Lec.*
fulgidus *Er.*
Staphylinus fulg. *Fabr.*
S. iracundus *Say.*
S. groenlandicus *Zett.*
var. Q. erythrogaster *Man.*
laevigatus *Er.*
Staphylinus laev. *Gyll.*
plagiatus *Mann.*
longipennis *Mann.*
marginalis *Maekl.*
melanocephalus *Man.* —
brunneus *Mann.* —
hyperboreus *Er.* —
transparens *Motsch.* —

bardus *Mels.* —
capucinus *Er.*
Staphylinus cap. *Grav.*
S. inversus *Say.*
Philonthus ater *Ziegler.*
pediculus *Er.*
Philonthus ped. *Nordm.*
terminatus *Mels.* —
molochinus *Er.*
Staphylinus mol. *Grav.*
S. laticollis *Grav.*
aenescens *Maekl.*
sublimbatus *Motsch.*

Thinopinus Lec.

pictus *Lec.*
variegatus *Lec.*
Trichocanthus va. *Motsch.*

Creophilus Stephens.

villosus *Kirby.*
Staphylinus vill. *Grav.*
bicinctus *Lec.*
Staphylinus bic. *Mann.*

Leistotrophus Perty.

cingulatus *Kraatz.*
Staphylinus cing. *Grav.*
S. chrysurus *Kirby.*
S. speciosus *Mann.*

Hadrotes Mén.

crassus *Mén.*
Staphylinus cr. *Mann.*
extensus *Lec.*

Trigonophorus Nordm.

subcoeruleus *Lec.* n. sp.

Staphylinus Linn.

maculosus *Grav.*
erythropennis *Mann.*
mysticus *Er.* —
comes *Lec.* n. sp.
exulans *Er.*
vulpinus *Nordm.*
?immaculatus *Mann.*
fossator *Grav.*
submetallicus *Lec.*
tomentosus *Grav.*
carbonatus *Lec.* n. sp.
badipes *Lec.* n. sp.
cinnamopterus *Grav.*
saphyrinus *Lec.*
luteipes *Lec.*

- **praelongus** *Mann.* —
- **violaceus** *Grav.*
- **cicatricosus** *Lec.* n. sp.
- **varipes** *Sachse.*
- **femoratus** *Grav.* —
- **ornaticauda** *Lec.* n. sp.
- **pleuralis** *Lec.*
- **tarsalis** *Mann.* —

Ocypus Kirby.

- **ater** *Er.*
  - Staphylinus ater *Grav.*

Belonuchus Nordm.

- **ephippiatus** *Er.*
  - Staphylinus eph. *Say.*
- **formosus** *Lec.* (nec Er.)
  - Staphylinus form. *Grav.*
  - B. pallipes *Mels.*

Philonthus Curtis.

- **cyanipennis** *Er.*
  - Staphylinus cy. *Fabr.*
  - S. coeruleipennis *Mann.*
- **aeneus** *Nordm.*
  - Staphylinus aen. *Rossi.*
  - ♂ Phil. politus *Kirby.*
  - ♀ Ph. mandibularis *Kirby.*
  - Ph. harrisii *Mels.*
- **californicus** *Mann.*
- **umbratilis** *Er.*
  - Staphylinus umb. *Grav.*
- **cautus** *Er.*
- **hepaticus** *Er.*
  - nanus *Mels.*
- **inquietus** *Er.*
- **blandus** *Er.*
  - Staphylinus bl. *Grav.*
  - St. laetulus *Say.*
  - var. Phil. pulchellus *Mels.*
  - Phil. paederinus *Sachse.*
- **niger** *Mels.*
- **ventralis** *Nordm.*
  - Staphylinus ventr. *Grav.*
  - St. immundus *Grav.*
- **brevis** *Mels.*
  - Staph. dimidiatus|| *Say.*
- **umbrinus** *Er.*
  - Staphylinus umb. *Grav.*
  - St. moestus *Grav.*
- **niger** *Mels.*
- **promtus** *Er.*
- **debilis** *Er.*
  - Staphylinus deb. *Grav.*
- **cinctutus** *Mels.* —
- **palliatus** *Er.*
  - Staphylinus pall. *Grav.*
- **flavolimbatus** *Er.*
  - ruficornis *Mels.*
- **thoracicus** *Er.*
  - Staphylinus thor. *Grav.*
- **lomatus** *Er.*
- **micans** *Nordm.*
  - Staphylinus mic. *Grav.*
- **fulvipes** *Nordm.*
  - Staphylinus fulv. *Fabr.*
  - Phil. fusiformis *Mels.*
- **brunneus** *Er.*
  - Staphylinus br. *Grav.*
  - St. sericans *Grav.*
  - Phil. picatus *Kirby.*
- **siegwaldii** *Mann.*
- **georgianus** *Sachse.*
- **aterrimus** *Er.*
  - Staphylinus at. *Grav.*
- **albionicus** *Mann.* —
- **picipennis** *Mäklin.* —
- **canescens** *Mann.*
- **confertus** *Lec.* n. sp.
- **lepidulus** *Lec.* n. sp.
- **baltimorensis** *Nordm.*
  - Staphylinus balt. *Grav.*
- **apicalis** *Er.*
  - Staphylinus ap. *Say.*
  - Phil. haematurus *Er.*
- **sobrinus** *Er.*
- **terminalis** *Lec.* n. sp.
- **paederoides** *Lec.* n. sp.
- **gratus** *Lec.* n. sp.
- **umbripennis** *Lec.* n. sp.
- **femoralis** *Mäklin.*
- **lithocharinus** *Lec.* n. sp.
- **dubius** *Lec.* n. sp.
- **opacus** *Lec.* n. sp.
- **carinatus** *Lec.* n. sp.
- **bistriatus** *Er.*
- **sulcicollis** *Lec.* n. sp.
- **varicolor** *Boh.* —

Xantholinus Serv.

- **fulgidus** *Er.*
  - Staphylinus fulg. *Fabr.*
- **cephalus** *Say.*
  - Gyrohypnus cons. *Nordm.*
  - Gyro. flavipennis *Nordm.*
  - X. consentaneus *Er.*
  - Gyro. assimilis *Kirby.*
  - X. palliatus *Mels.*
  - X. kiesenwetteri *Sachse.*
- **emmesus** *Say.*
  - Staphylinus em. *Grav.*
  - X. sanguinolentus *Mels.*
- **obsidianus** *Mels.*
- **hamatus** *Say.*
- **obscurus** *Er.*
- **pusillus** *Sachse.*

Leptacinus Er.

- **flavipes** *Lec.* n. sp.

Leptolinus Kraatz.

- **parcus** *Lec.* n. sp.
- **grandiceps** *Lec.* n. sp.
- **longicollis** *Lec.* n. sp.
- **ruficollis** *Lec.* n. sp.
- **nigripennis** *Lec.* n. sp.

Othius Stephens.

- **californicus** *Mann.* —

Baptolinus Kraatz.

- **melanocephalus** *Kraatz.*
  - Othius mel. *Nordm.*

Diochus Er.

- **schaumii** *Kraatz.*

PAEDERINI.

Lathrobium Grav.

- **grande** *Lec.* n. sp.
- **punctulatum** *Lec.* n. sp.
- **angulare** *Lec.* n. sp.
- **jacobinum** *Lec.* n. sp.
- **puncticolle** *Kirby.*
- **pedale** *Lec.* n. sp.
- **simile** *Lec.* n. sp.
- **concolor** *Lec.* n. sp.
- **brevipenne** *Lec.* n. sp.
- **armatum** *Say.* —
- **nigrum** *Lec.* n. sp.
- **californicum** *Lec.* n. sp.
- **tenue** *Lec.* n. sp.
- **seriatum** *Lec.* n. sp.
- **longiusculum** *Grav.*
  - var. politum *Grav.*
  - var. castaneum *Grav.*
- **collare** *Er.*
- **dimidiatum** *Say.*

Cryptobium Mann.

- **badium** *Er.*
  - Lathrobium bad. *Grav.*
- **pimerianum** *Lec.* n. sp.
- **bicolor** *Er.*
  - Lathrobium bic. *Grav.*
- **melanocephalum** *Er.*
- **carolinum** *Er.* —
- **sellatum** *Lec.* n. sp.
- **despectum** *Lec.* n. sp.
- **pallipes** *Nordm.*
  - Lathrobium pall. *Grav.*
  - Lathr. gravenhorstii *Kirby.*
- **latebricola** *Nordm.*
  - ?Lathr. cinctum *Say.*

pusillum *Lec.* n. sp.
cribratum *Lec.* n. sp.
serpentinum *Lec.* n. sp.

Stilicus Latr.

tristis *Mels.*
rudis *Lec.* n. sp.
angularis *Er.*
dentatus *Er.*
Rugilus dent. *Say.*

Echiaster Er.

opacus *Lec.* n. sp.
nitidus *Lec.* n. sp.

Scopaeus Er.

exiguus *Er.*

Lithocharis Er.

corticina *Er.*
Lathrobium cort. *Grav.*
L. millepunctatum *Say.*
confluens *Er.*
Lathrobium confl. *Say.*

Dacnochilus Lec.

laetus *Lec.* n. sp.

Liparocephalus Mäklin.

brevipennis *Mäklin.*

Sunius Steph.

prolixus *Er.*
?Paederus cinctus *Say.*
linearis *Er.*
?binotatus *Er.* —
Paederus bin. *Say.*
longiusculus *Er.*
Paederus long. *Mann.*
P. discopunctatus *Say.*
trinotatus *Boh.* —

§

monstrosus *Lec.* n. sp.

Stilicopsis Sachse.

paradoxa *Sachse.*

Paederus Grav.

riparius *Fabr.* —
an rite Am. bor.?
femoralis *Lec.*
littorarius *Grav.*
coeruleipennis *Boh.* —

compotens *Lec.* n. sp.
ustus *Lec.*

Pinophilus Grav.

picipes *Er.*
latipes *Er.*
parcus *Lec.* n. sp.
densus *Lec.* n. sp.
opacus *Lec.* n. sp.

Palaminus Er.

pallipes *Lec.* n. sp.
lividus *Lec.* n. sp.
testaceus *Er.*
larvalis *Lec.* n. sp.

STENINI.

Dianous Curtis.

chalybeus *Lec.* n. sp.

Stenus Latr.

colon *Say.*
renifer *Lec.* n. sp.
semicolon *Lec.* n. sp.
comma *Lec.* n. sp.

§

juno *Fabr.*
stygicus *Say.*
colonus *Er.*
egenus *Er.*
congener *Mäklin.*
maritimus *Motsch.*
erythropus *Mels.* —
an a seq. diff.?
femoratus *Say.*
adspector *Mäkl.* —
parallelopipedus *Mäk.*—
chalybaeus *Boh.* —
cariniceps *Makl.* —
immarginatus *Makl.* —
brevipennis *Makl.*
flavicornis *Er.*
geniculatus|| *Say.*
annularis *Er.*
punctatus *Er.*
arculus *Er.*
callosus *Er.*
?quadripunctatus *Say.*—

Euaesthetus Grav.

americanus *Er.*

Edaphus Lec.

nitidus *Lec.*

Megalops Er.

caelatus *Er.*
Oxyporus cael. *Grav.*
rufipes *Lec.* n. sp.

OXYTELINI.

Oxyporus Fabr.

major *Grav.*
rufipennis *Lec.* n. sp.
femoralis *Grav.*
var. pulcher *Zeigler.*
stygicus *Say.*
vittatus *Grav.*
var. cinctus *Grav.*
var. dimidiatus *Mels.*
var. fasciatus *Mels.*
5-maculatus *Lec.* n. sp.
lateralis *Grav.*
var. brevis *Mels.*

Osorius Latr.

latipes *Er.*
Oxytelus latr. *Grav.*
Molosoma lat. *Say.*

Bledius Steph.

pallipennis *Er.*
Oxytelus pall. *Say.*
B. mandibularis *Er.*
armatus *Er.* (*Say.*)
fumatus *Lec.* n. sp.
semiferrugineus*Lec.* n. s.
rubiginosus *Er.*
politus *Er.*
nitidicollis *Lec.* n. sp.
diagonalis *Lec.* n. sp.
ornatus *Lec.* n. sp.
divisus *Lec.* n. sp.
cordatus *Er.*
Oxytelus cord. *Say.*
flavipennis *Lec.* n. sp.
annularis *Lec.* n. sp.
ruficornis *Lec.* n. sp.
suturalis *Lec.* n. sp.
troglodytes *Er.*
basalis *Lec.* n. sp.
opaculus *Lec.* n sp.
forcipatus *Lec.* n. sp.
emarginatus *Er.* —
Oxytelus em. *Say.*
longipennis *Mäkl.* —
albonotatus *Mäkl.* —
fasciatus *Er.* —
Oxytelus fasc. *Say.*
melanocephalus *Er.* —
Oxytelus mel. *Say.*

Platystethus Mann.

americanus *Er.*

Oxytelus Grav.

rugosus *Er.*
Staphylinus rug. *Grav.*
Ox. basalis *Mels.*
incolumis *Er.*
fuscipennis *Mann.*
sculptus *Grav.*
moerens *Mels.*
insignitus *Grav.*
americanus *Mann.*
pensylvanicus *Er.*
nitidulus *Grav.*
rugulosus *Say.*
exiguus *Er.*
pygmaeus *Mels.*
nanus *Er.*
?parvulus *Mels.*

Haploderus Steph.

biimpressus *Kraatz.*
Phloeonaeus bi-imp. *Mäkl.*
linearis *Lec.* n. sp.
laticollis *Lec.* n. sp.

Apocellus Er.

longicornis *Lec.*
Falagria long. *Sachse.*
sphaericollis *Er.*
Lathrobium sph. *Say.*
Falagria globosa *Mels.*
Fal. amabilis *Sachse.*

Trogophloeus Mann.

morio *Er.*

Ancyrophorus Kraatz.

planus *Lec.*
Trogophloeus pl. *Lec.*

Distemmus Lec.

argus *Lec.*
Trogophloeus argus *Lec.*

Syntomium Er.

confragosum *Mäkl.* —

OMALINI.

Anthophagus Grav.

caesus *Er.*
brunneus *Say.*
verticalis *Say.*
laticollis *Mann.* —

Lesteva Latr.

biguttula *Lec.* n. sp.
pallipes *Lec.* n. sp.
picescens *Lec.* n. sp.
fusconigra *Mäklin.* —
Phloeopterus fusc. *Motsch.*

Acidota Steph.

seriata *Lec.* n. sp.
subcarinata *Er.*
tenuis *Lec.* n. sp.
patruelis *Lec.* n. sp.
frankenhaeuseri *Mäkl.*—

Olophrum Er.

rotundicolle *Er.*
Omalium rot. *Say.*
Ol. obtectum *Er.*
emarginatum *Er.*
Omalium em. *Say.*
marginatum *Mäkl.*
convexum *Mäkl.*
convexicolle *Lec.*
Lathrium conv. *Lec.*
parvulum *Mäkl.* —
latum *Mäkl.* —

Lathrimaeum Er.

sordidum *Er.*
subcostatum *Mäkl.*
fimetarium *Mäkl.*

Amphichroum Kraatz.

testaceum *Kraatz.*
Arpedium test. *Mann.*
floribundum *Lec.* n. sp.
maculicolle (*Mann.*) —

Porrhodites Kraatz.

brevicollis *Kraatz.*
Deliphrum brev. *Mäkl.*

Trigonodemus Lec.

striatus *Lec.* n. sp.

Coryphium Steph.

pallidum *Lec.* n. sp.
guttatum *Lec.* n. sp.
notatum *Lec.* n. sp.

Omalium Grav.

strigipenne *Mäkl.*
longulum *Mäkl.*
planipenne *Mäkl.*
laesicolle *Mäkl.*
repandum *Er.*
foraminosum *Mäkl.*
plagiatum *Mann.* —
exculptum *Mäkl.* —
segmentarium *Mäkl.* —
callosum *Mäkl.* —
humile *Mäkl.* —
flavipenne *Mäkl.* —
tumidulum *Mäkl.* —
marginatum *Say.* —
?marginatum‖ *Kirby.* —

Anthobium Steph.

dimidiatum *Mels.*
fimetarium *Er.*
sorbi *Gyll.* —
pothos *Mann.*
rugulosum *Mäkl.* —

Micralymma Westw.

stimpsonii *Lec.* n. sp.
brevilingue *Schiödte.*

PROTEININI.

Proteinus Latr.

limbalis *Mäkl.*
parvulus *Lec.* n. sp.
basalis *Makl.*

Megarthrus Steph.

pictus *Motsch.*
americanus *Sachse.*
excisus *Lec.* n. sp.
angulicollis *Mäkl.*
atratus *Mäkl.*

PHLOEOCHARINI.

Olisthaerus Er.

megacephalus *Er.*
Omalium meg. *Zett.*
Ol. laticeps *Lec.*
nitidus *Lec.*

PIESTIDAE.

Prognatha Latr.

americana *Mels.*
convergens *Sachse.*

Isomalus Er.

pallidus *Lec.* **n. sp.**
fasciatus *Lec.* **n. sp.**
nigrellus *Lec.* **n. sp.**

Hypotelus Er.

picipennis *Lec.* **n. sp.**

Glyptoma Er.

costale *Er.*

Lispinus Er.

rufescens *Lec.* **n. sp.**
obscurus *Lec.* **n. sp.**
californicus *Lec.* **n. sp.**
tenuis *Lec.* **n. sp.**

MICROPEPLIDAE.

Micropeplus Latr.

cribratus *Lec.* **n. sp.**
sculptus *Lec.* **n. sp.**
costipennis *Mäkl.*
costatus *Lec.*
laticollis *Mäkl.*
punctatus *Lec.* —
  costatus|| *Mäkl.*
brunneus *Mäkl.* —

HISTERIDAE.

HISTERIDAE (genuini).

HOLOLEPTINI.

Hololepta Payk.

fossularis *Say.*
  ♀ aequalis *Say.*
excisa *Mars.* —
lucida *Lec.*
populnea *Lec.*
  bractea *Er.* (fide *Mars.*)
grandis *Lec.*
  Lionota gr. *Marseul.*
  Hol. princeps. *Lec.*
vicina *Lec.*
  Lionota vicina *Mars.*
platysma *Er.*
  Lionota pl. *Marseul.*
cacti *Lec.*
  Lionota cacti *Mars.*

HISTRINI.

Hister Linn.

§ Omalodes Er.

texanus *Mars.*[1] —

§ Psiloscelis Mars.

planipes *Lec.*
  Omalodes harrisii|| *Lec.*
subopacus *Lec.* **n. sp.**

§ Hister Mars.

arcuatus *Say.*
instratus *Lec.*
sellatus *Lec.*
  sennevillei *Mars.*
binotatus *Lec.*
laevipes *Er.*
costatus *Lec.*
sexstriatus *Lec.*
interruptus *Beauv.*
  obtusatus *Harris.*
  ?memnonius *Say.*
merdarius *Payk.*
immunis *Er.*
harrisii *Kirby.*
repletus *Lec.*
stygicus *Lec.*
  distinctus‡ *Er.*
foedatus *Lec.*
cognatus *Lec.*
marginicollis *Lec.*
semisculptus *Lec.* **n. sp.**
defectus *Lec.*
hospitus *Lec.*
dispar *Lec.*
indistinctus *Say.*
latipes *Beauv.* —
depurator *Say.*
  paykullii *Kirby.*
furtivus *Lec.*
incertus *Mars.*
curtatus *Lec.*
spretus *Lec.*
cavifrons *Mars.* —
coenosus *Er*
  decisus *Lec.*
punctifer *Payk.*
abbreviatus *Fabr.*
  subhemisphericus *Beauv.*
bifidus *Say.*
civilis *Lec.*
remotus *Lec.*
californicus *Mars.* —
nubilus *Lec.*
pollutus *Lec.*
sedecimstriatus *Say.*
americanus *Payk.*
perplexus *Lec.* **n. sp.**
exaratus *Lec.*
ambigena *Lec.*
bimaculatus *Linn.*
  obliquus *Say.*

§ Platysoma Leach.

carolinus *Payk.*
  sordidus *Say.*
lecontei (*Mars.*)
  Pl. depressum‡ *Lec.*
aequus *Lec.* **n. sp.**
punctiger *Lec.*
basalis *Lec.*
parallelus *Say.*
coarctatus *Lec.*
cylindricus *Payk.*
  Cylistix cyl. *Mars.*
attenuatus (*Lec.*)
gracilis (*Lec.*)[2]
  frontalis|| *Say.*

Margarinotus Mars.

guttifer *Horn.*

Phelister Mars.

venustus *Mars.*
  Hister ven. *Lec.*
vernus *Mars.*
  Hister vern. *Say.*
subrotundus *Mars*
  Hister subr. *Er.*
marginellus *Lec.*

Hetaerius Er.

morsus *Lec.*
brunnipennis *Lec.*
  Hister brunn. *Randall.*
setiger *Lec.*

Tribalus Er.

americanus *Lec.*
  Caerosternus am. *Lec.*
laevigatus. —
  Hister laev. *Payk.*
  an rite Am. bor. ?

Onthophilus Leach.

nodatus *Lec.*
pluricostatus *Lec.*
alternatus *Er.*
  Hister alt. *Say.*

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[1] *Omalodes borealis* Lec. is *O. omega* with a false locality.

[2] *H. thoracicus* Payk. is probably not North American. *H. incisus* Er. is an East Indian species. *Abbottia paykulliana*, and *georgiana* Leach, are irrecognizable.

Epierus Er.

coproides *Mars.* —
regularis *Lec.*
  Hister reg. *Beauv.*
  H. nigrellus *Say.*
ellipticus *Lec.*
pullicarius *Er.*
  minor *Lec.*
planulus *Er.*
  vicinus *Lec.*
decipiens *Lec.*

Bacanius Lec.

tantillus *Lec.*
misellus *Lec.*
punctiformis *Mars.*
  Abraeus punct. *Lec.*

Sphaeroderma Mars.

marginatum *Lec.*
  Bacanius ? marg. *Lec.*

Dendrophilus Leach.

punctulatus *Lec.*
  Hister punct. *Say.*

Paromalus Er.

affinis *Lec.*
aequalis *Lec.*
  Hister aeq. *Say.*
  P. complanatus‖ *Er.*
estriatus *Lec.*
bistriatus *Er.*
seminulum *Er.*

§ Carcinops Mars.

opuntiae *Lec.*
consors *Lec.*
tenellus *Er.*
  gilensis *Lec.*
pumilio *Er.*
  Hister nanus *Lec.*
conjunctus *Lec.*
  Hister conj. *Say.*
geminatus (*Lec.*)
corticalis *Mars.*
  Hister cort. *Lec.*

Saprinus Leach.

§ Gnathoncus DuVal.

rotundatus *Er.*
  Hister rotund. *Fabr.*
  Sap. deletus *Lec.*
interceptus *Lec.*

§

alienus *Lec.*
discoidalis *Lec.*
interstitialis *Lec.*
obscurus *Lec.*
pectoralis *Lec.*
paeminosus *Lec.*
lugens *Er.*
  californicus *Mann.*
spurcus *Lec.*
oregonensis *Lec.*
distinguendus *Mars.*
imperfectus *Lec.*
impressus *Lec.*
infaustus *Lec.*
  piceus‖ *Lec.*
pensylvanicus *Er.*
  Hister pens. *Payk.*
conformis *Lec.*
parumpunctatus *Lec.*
orbiculatus *Mars.* —
assimilis *Er.*
  Hister ass. *Payk.*
neglectus *Lec.*
posthumus *Mars.* —
minutus *Lec.*
latubris *Lec.*[1]
  placidus *Mars.*
  ?placidus *Er.*
vescus *Mars.* —
insertus *Lec.*
obductus *Lec.*
ciliatus *Lec.*
vinctus *Lec.*
laridus *Lec.*
scissus *Lec.*
scupularis *Lec.*
pratensis *Lec.*
  desertorum‖ *Mars.*
vestitus *Lec.*
fimbriatus *Lec.*
plenus *Lec.*
vitiosus *Lec.*
lubricus *Lec.*
coerulescens *Lec.*
olidus *Lec.*
convexiusculus *Mars.* —
sphaeroides *Lec.*
  var. bigener *Lec.*
seminitens *Lec.* n. sp.
fraternus *Lec.*
  Hister frat. *Say.*
mancus *Lec.*
  Hister manc. *Say.*
estriatus *Lec.*
bigemmeus *Lec.*
patruelis *Lec.*
javeti *Mars.*
  an praec. var. ?
ferrugineus *Mars.* —
lucidulus *Lec.*
  barbipes *Mars.*
dimidiatipennis *Lec.*
  Hister dim. *Lec.*
  H. bimaculatus var.‡ *Herbs.*
  var. H. palmatus *Say.*
  var. S. desertoram *Mars.*
gaudens *Lec.*
  Pachylopus gaud. *Lec.*
serrulatus *Lec.*
  Pachylopus serr. *Lec.*
sulcifrons *Mann.*[2]
  Pachylopus sulc. *Lec.*

Teretrius Er.

obliquulus *Lec.*
americanus *Lec.*
  picipes‡ *Lec.*

Plegaderus Er.

sayi *Mars.*
transversus *Say.*
erichsonii *Lec.*
  pusillus‡ *Lec.*

Acritus Lec.

discus *Lec.*
fimetarius *Lec.*
strigosus *Lec.*
conformis *Lec.*
acupictus *Mars.* —
acaroides *Mars.* —
lateralis *Mars.* —
simplex *Lec.*
basalis *Lec.*
brevisternus *Mars.* —
politus *Lec.*
maritimus *Lec.*
exiguus *Lec.*
  Abraeus ex. *Er.*
  Ab. aciculatus *Lec.*
  Ab. obliquus *Lec.*
cribripennis *Mars.* —
natchez *Mars.* —

MURMIDIIDAE.

Murmidius Leach.

ovalis *Leach.*
  Hister ovalis *Beck.*
  Ceuthocerus advena *Germ.*

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[1] It is impossible to determine to what species the synonym should be placed. By some clerical error, the description of Erichson is completely confused.

[2] *S. rugipennis* and *rubriculus* Mars. are of doubtful locality, and perhaps are North American.

SCAPHIDIIDAE.

Scaphidium Oliv.

obliteratum *Lec.*
quadriguttatum *Say.*
quadripustulatum *Say.*
piceum *Mels.*
  quadriguttatum var.‡ *Say.*

Scaphium Kirby.

castanipes *Kirby.*

Cyparium Er.

flavipes *Lec.*

Baeocera Er.

concolor *Er.* —
  Scaphidium conc. *Fabr.*
apicalis *Lec.*

Scaphisoma Leach.

castaneum *Lec.*
  Scaphidium cast. *Motsch.*
convexum *Say.*
punctulatum *Lec.*
suturale *Lec.*
terminatum *Mels.*
rufulum *Lec.*
pusillum *Lec.*

Toxidium Lec.

gammaroides *Lec.*

TRICHOPTERYGIDAE.

Trichopteryx Kirby.

haldemani *Lec.*
  rotundata‖ *Hald.*
discolor *Hald.*
laticollis *Mäklin.*
abrupta *Hald.*
fuscipennis *Hald.*
rotundata? *Motsch.*
aspera *Hald.*
insularis *Mäklin.*
sitkaensis *Allibert.* —
  Ptilium sitk. *Motsch.*
  Acratrichis sitk. *Motsch.*
depressa *Gillm.*

Ptilium Er.

collani *Mäkl.* —
canadense *Lec.* **n. sp.**
fungi *Lec.* **n. sp.**

§ PTINELLA Motsch.

testaceum *Lec.* **n. sp.**
balteatum *Lec.* **n. sp.**
brunneum *Lec.* **n. sp.**
pini *Lec.* **n. sp.**
quercus *Lec.* **n. sp.**
nigrovittis *Lec.* **n. sp.**

Ptenidium Er.

terminale *Hald.*
pullum *Mäkl.*
foveicolle *Lec.* **n. sp.**
lineatum *Lec.* **n. sp.**

PHALACRIDAE.

Phalacrus Payk.

seriatus *Lec.*
ovalis *Lec.*
pennicellatus *Say.*
politus *Mels.*
pumilio *Lec.*
simplex *Lec.*

Olibrus Er.

vittatus *Lec.* **n. sp.**
bicolor *Er.*
  Phalacrus bic. *Gyll.*
striatulus *Lec.*
rufipes *Lec.*
semistriatus *Lec.*
rubens *Lec.*
pallipes. —
  Olibrus pall. *Say.*
obtusus *Lec.*
apicalis *Lec.*
  Phalacrus ap. *Mels.*
aquatilis *Lec.*
nitidus *Lec.*
  Phalacrus nit. *Mels.*
pusillus *Lec.*

Litochrus Er.

pulchellus *Lec.*

NITIDULIDAE.[1]

BRACHYPTERINI.

Cercus Latr.

abdominalis *Er.*
sericans *Lec.*

Brachypterus Kugel.

urticae *Kugelann.*
  Dermestes urt. *Fabr.*
  Cercus pusillus *Mels.*

Amartus Lec.

rufipes *Lec.*

CARPOPHILINI.

Colastus Er.

morio *Er.*
tinctus *Lec.*
  Strongylus tinct. *Mann.*
semitectus *Er.*
  Natidula semit. *Say.*
maculatus *Er.* —
unicolor *Lec.*
  Nitidula unicolor *Say.*
  Col. obscurus *Er.*
obliquus *Lec.*
limbatus *Lec.*
truncatus *Lec.*
  Nitidula trun. *Randall.*
infimus *Er.* —

Tribrachys Lec.

caudalis *Lec.*
  Carpophilus caud. *Lec.*

Carpophilus Leach.

melanopterus *Er.*
hemipterus *Steph.*
  Dermestes hem. *Linn.*
  Carp. bimaculatus *Mels.*
dimidiatus *Er.*
  Nitidula dim. *Fabr.*
pallipennis *Lec.*
  ?Cercus pall. *Say.*
  Carp. floralis *Er.*
marginatus *Er.*
  minutus *Mels.*
corticinus *Er.* —
niger *Er.*
  Cercus niger *Say.*

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[1] A monograph of this family from the pen of my learned friend, Andrew Murray, is on the point of being published as a British Museum Catalogue. I therefore abstain from adding descriptions of many unnamed species to the present edition of the catalogue.

- carbonatus *Lec.*
- antiquus *Mels.*
  - Cercus punctulatus *Mels.*
  - ?Nitidula brachyptera *Say.*
- discoideus *Lec.*

Conotelus Er.

- obscurus *Er.*

NITIDULINI.

Epuraea Er.

- corticina *Er.*
- rufida *Mels.*
- badia *Lec.* —
  - Omosita bad. *Mels.*
- infuscata *Mäklin.*
- convexiuscula *Mann.*
- placida *Mäklin.*
- flavomaculata *Mäklin.*—
- ambigua *Mäklin.*
- labilis *Er.*
- adumbrata *Mäklin.*
- nigra *Mäklin.*
- linearis *Mäklin.*
- planulata *Er.*
- truncatella *Mann.*
- nubila *Lec.*
- helvola *Er.*
  - Omosita castanea *Mels.*
- rufa *Er.*
  - Nitidula rufa *Say.*
- ?avara (*Randall*). —

Nitidula Fabr.

- bipustulata *Fabr.*
- obscura *Fabr.* —
- ossium *Kirby.* —
- humeralis *Lec.*
- ziczac *Say.*
- uniguttata *Mels.*

Prometopia Er.

- sexmaculata *Er.*
  - Nitidula sexm. *Say.*

Lobiopa Er.

- setulosa *Lec.* n. sp.
- undulata *Er.*
  - Nitidula und. *Say.*
- guttulata *Lec.* n. sp.

Omosita Er.

- colon *Er.*
  - Silpha colon *Linn.*
  - Nitidula col. *Fabr.*
- inversa *Lec.*

Phenolia Er.

- grossa *Er.*
  - nitidula gr. *Fabr.*

Stelidota Er.

- geminata *Er.*
  - Nidula gem. *Say.*
- octomaculata *Lec.*
  - Nitidula oct. *Say.*

Meligethes Kirby.

- saevus *Lec.*
- ruficornis *Lec.*
- rufimanus *Lec.*
- moerens *Lec.*
- obsoletus *Lec.*
- seminulum *Lec.*

Psilopyga Lec.

- histrina *Lec.*
- nigripennis *Lec.* n. sp.

Pocadius Er.

- helvolus *Er.*

CYCHRAMINI.

Cychramus Er.

- adustus *Er.*

Amphicrossus Er.

- ciliatus *Er.*
  - Nitidula cil. *Oliv.*
  - N. unilineata *Say.*
- concolor *Lec.*

Pallodes Er.

- silaceus *Er.*

Cybocephalus Er.

- nigritulus *Lec.* n. sp.

IPINI.

Cryptarcha Shuckard.

- ampla *Er.*
- liturata *Lec.*
  - picta‖ *Mels.*
- strigata *Heer.*
  - Nitidula strig. *Fabr.*

Ips Fabr.

- fasciatus *Say.*
  - Nitidula fasc. *Oliv.*
- quadrisignatus *Say.*
- bipustulatus *Mels.*
- geminatus *Mels.* —
- obtusus *Say.*
- sanguinolentus *Say.*
  - Nitidula sang. *Oliv.*
- cylindricus *Lec.* n. sp.
- confluens *Say.*
  - Engis confluentus *Say.*
- dejeanii *Kirby.*
  - sepulchralis *Randall.*
- vittatus *Say.* —

Pityophagus Shuck.

- bipunctatus *Lec.*
  - Colydium bip. *Say.*

RHIZOPHAGINI.

Rhizophagus Herbst.

- dimidiatus *Mann.*
- minutus *Mann.* —
- scapturatus *Mann.* —
- abbreviatus *Motsch.* —

MONOTOMIDAE.

Phyconomus Lec.

- marinus *Lec.*
  - Monotoma mar. *Lec.*

Nomophloeus Lec.

- pallipennis *Lec.*

Hesperobaenus Lec.

- rufipennis *Lec.*
  - Monotoma ruf. *Lec.*
- rufipes *Lec.* n. sp.

Bactridium Lec.

- nanum *Lec.*
  - Rhizophagus n. *Er.*
  - R. erythropterus *Mels.*
  - R. ephippiger *Guérin.*
- striatum *Lec.*
  - Monotoma str. *Lec.*

Monotoma Herbst.

- productum *Lec.*
- fulvipes *Mels.*
  - opaca *Zeigler.*

foveatum *Lec.*
americanum *Aubé.*
parallelum *Lec.*
nucidum *Lec.*

TROGOSITIDAE.

TROGOSITIDAE (genuini).

Nemosoma Latr.

parallelum *Lec.*
Rhizophagus? par. *Mels.*
cylindricum *Lec.* n. sp.

Temnochila Westw.

acuta *Lec.*
aerea *Lec.*
chlorodia *Lec.*
Trogosita chl. *Mann.*
viridicyanea *Lec.*
Trogosita virid. *Mann.*
virescens *Er.*
Trogosita vir. *Ol.*
barbata *Lec.* n. sp.

Alindria Er.

cylindrica *Er.*
Trogosita cyl. *Enc.*
Hypophloeus niger *Mels.*
var. Hyp. nigellus *Mels.*
teres *Lec.*
Hypophloeus t. *Mels.*

Trogosita Oliv.

mauritanica *Oliv.*
Tenebrio maur. *Linn.*
Tr. caraboides *Fabr.*
nitida *Horn.*
californica *Horn.*
crassicornis *Horn.*
pleuralis *Horn.*
limbalis *Mels.*
marginata *Beauv.*
corticalis *Mels.*
intermedia *Horn.*
dubia *Mels.*
semicylindrica *Horn.*
nana *Mels.*
?mutica *Beauv.*
collaris *Sturm.*
sinuata *Lec.*
cucujiformis *Horn.*
nigrita *Horn.*
castanea *Mels.*
laticollis *Horn.*
bimaculata *Mels.*
obscura *Horn.*
rugosipennis *Horn.*
obtusa *Horn.*[1]

PELTIDAE.

Nosodes Lec.

serrata *Lec.*
Peltis serr. *Lec.*
silphides *Lec.*
Boletophagus silp. *Newm.*

Peltis Kug.

pippingskoeldi *Mann*
fraterna *Randall.*
ferruginea *Kug.*
Silpha ferr. *Linn.*
P. septentrionalis *Randall.*
quadrilineata *Mels.*
var. marginata *Mels.*

Thymalus Latr.

fulgidus *Er.*
marginicollis *Chevr.*

PELTASTICIDAE.

Peltastica Mann.

tuberculata *Mann.*

COLYDIIDAE.

SYNCHITINI.

Anchomma Lec.

costatum *Lec.*

Rhagodera Er.

tuberculata *Mann.*

Coxelus Latr.

guttulatus *Lec.* n. sp.

Ditoma Illiger.

sulcata *Lec.*
ornata *Lec.*
laticollis *Lec.* n. sp.
quadriguttata *Lec.*
Synchita qu. *Say.*
Bitoma zimmermanni *Gué.*

Eudesma Lec.

undulata *Lec.*
Bitoma undulata *Mels.*

Synchita Hellwig.

granulata *Say.*
nigripennis *Lec.* n. sp.
parvula *Guérin.*
variegata *Lec.*

Cicones Curtis.

marginalis *Mels.*

Lasconotus Er.

complex *Lec.*
pusillus *Lec.* n. sp.

COLYDIINI.

Aulonium Er.

parallelipipedum *Er.*
Colydium par. *Say.*
aequicolle *Lec.*
tuberculatum *Lec.* n. sp.

Colydium Fabr.

lineola *Say.*
nigripenne *Lec.* n. sp.
?longiusculum *Say.*

Eulachus Er.

carinatus *Lec.* n. sp.

Nematidium Er.

filiforme *Lec.* n. sp.

Oxylaemus Er.

americanus *Lec.* n. sp.

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[1] The descriptions of the following species are so imperfect that they cannot be identified: *T. subnigra* Beauv., *T. depressior* Beauv., *T. americana* Kirby. *T. pusillima* probably belongs to Laemophloeus.

BOTHRIDERINI.

Bothrideres Er.

exaratus *Mels.*
geminatus‖ *Hald.*
geminatus *Er.*
Lyctus gem. *Say.*

Sosylus Er.

costatus *Lec.* n. sp.

PYCNOMERINI.

Endectus Lec.

haematodes *Lec.*
Lyctus haem. *Fabr.*
Xylotrogus brevicornis *Mels.*
nitidus *Lec.* n. sp.
reflexus *Lec.*
Lyctus refl. *Say.*

Pycnomerus Er.

sulcicollis *Lec.* n. sp.

CERYLINI.

Philothermus Aubé.

glabriculus *Lec.* n. sp.

Cerylon Latr.

simplex *Lec.*
castaneum *Say.*
unicolor *Lec.*
Lathridius un. *Zeigler.*
angustulum *Lec.* n. sp.

RHYSSODIDAE.

Rhyssodes Dalm.

exaratus *Ill.*
aratus *Newman.*

Clinidium Kirby.

conjungens *Lec.*
Rhyssodes conj. *Germ.*

CUCUJIDAE.

SYLVANIDAE.

surinamensis *Steph.*
Dermestes sur. *Linn.*
Colydium frument. *Fabr.*
Derm. sexdentatus *Fabr.*
Sylv. frumentarius *Er.*
bidentatus *Er.*
Dermestes bid. *Fabr.*
planatus *Germ.*
zimmermanni *Guérin.*
cognatus *Lec.*
imbellis *Lec.*
nitidulus *Lec.*
opaculus *Lec.*
rectus *Lec.*
quadricollis *Guérin.*
advena *Er.*
Cryptophagus adv. *Waltl.*
Lathrid. musaeorum *Ziegl.*

Nausibius Redt.

dentatus *Schaum.*
Corticaria dent. *Marsham.*
Lyctus dent. *Fabr.*
Sylvanus dent. *Say.*

PASSANDRIDAE.

Catogenus Westwood.

rufus *Westw.*
Cucujus rufus *Fabr.*
puncticollis *Newm.* —
linearis *Lec.* n. sp.

CUCUJIDAE.

CUCUJINI.

Cucujus Fabr.

clavipes *Fabr.*
puniceus *Mann.*

Pediacus Shuckard.

subcarinatus *Mann.*
planus *Lec.*
Sylvanus planus *Lec.*
subglaber *Lec.*

Laemophloeus Lap.

biguttatus *Lec.*
Cucujus big. *Say.*
Laem. bisignatus *Guérin.*
fasciatus *Mels.*
adustus *Lec.*
bullatus *Lec.*
nitens *Lec.*
zimmermanni *Lec.*
ferrugineus *Er.*
Cucujus ferr. *Creutz*
Cucujus test. *Payk.*
punctatus *Lec.*
geminatus *Lec.*
longicornis *Mann.* —
modestus *Lec.*
Cucujus mod. *Say.*
Laem. singularis *White.*
puberulus *Lec.*
cephalotes *Lec.*
?pusillimus. —
Trogosita pus. *Mann.*

Narthecius Lec.

grandiceps *Lec.* n. sp.

BRONTINI.

Dendrophagus Schönh.

glaber *Lec.*
cygnaei *Mann.* —
americanus *Mann.* —

Brontes Fabr.

dubius *Fabr.*
debilis *Lec.*
truncatus *Motsch.*

HEMIPEPLIDAE.

Hemipeplus Latr.

marginipennis *Lec.*
Nemicelus marg. *Lec.*

TELEPHANIDAE.

TELEPHANINI.

Telephanus Er.

velox *Hald.*
Heterodromia vel. *Hald.*

PSEUDOPHANINI.

Pseudophanus Lec.

signatus *Lec.*

CRYPTOPHAGIDAE.

TELMATOPHILINI.

Telmatophilus Heer.

americanus *Lec.* n. sp.

Loberus Lec.

impressus *Lec.* n. sp.

CRYPTOPHAGINI.

Antherophagus Latr.

ochraceus *Mels.*
suturalis *Mann.* —
convexulus *Lec.* n. sp.

Cryptophagus Herbs.

tuberculosus *Mäkl.* —
quadrihamatus *Mäkl.* —
cellaris *Er.*
Dermestes cell. *Scop.*
Crypt. crenatus *Herbst.*
octodentatus *Mäkl.*
quadridentatus *Mann.*
bidentatus *Mäkl.*
punctatissimus *Mäkl.* —
californicus *Mann.* —
difficilis *Lec.*
debilis *Lec.*
hirtulus *Lec.*
pilosus‖ *Lec.*
saginatus *Sturm.?*
?humeralis *Kirby.* —
?concolor *Kirby.* —

Paramecosoma
Curtis.

serrata *Er.*
Cryptophagus serr. *Gyll.*
denticulata *Lec.*
Cryptophagus dent. *Lec.*
inconspicua *Lec.*
Cryptophagus inc. *Lec.*

Tomarus Lec.

pulchellus *Lec.* n. sp.

ATOMARIINI.

Atomaria Kirby.

ferruginea *Er.*
Cryptophagus ferr. *Sahl.*
atra *Kirby.* —
vespertina *Mäkl.*
planulata *Mäkl.* —
fuscicollis *Mann.* —

§

kamtschatica *Motsch.*
fulvipennis *Mann.*
lepidula *Mäkl.*
laetula *Lec.*

Epistemus Steph.

apicalis *Lec.* n. sp.

DERODONTIDAE.

Derodontus Lec.

maculatus *Lec.*
Cryptophagus mac. *Mels.*
trisignatus *Lec.*
Corticaria tris. *Mann.*

LATHRIDIIDAE.

Holoparamecus
Curtis.

pacificus *Lec.* n. sp.

Bonvouloiria DuVal.

parviceps *Lec.*
Lathridius parv. *Lec.*

Lathridius Ill.

quadricollis *Mann.*
protensicollis *Mann.*
cordicollis *Mann.* —
cinnamopterus *Mann.* —
fulvipennis *Mann.* —
incisus *Mann.* —
strangulatus *Mann.* —
curtulus *Mann.* —
sobrinus *Mann.*
liratus *Lec.* n. sp.
sculptilis *Lec.*
costicollis *Lec.*
pulicarius *Lec.*
Corticaria pul. *Mels.*
crenatus *Lec.*
reflexus *Lec.*
minutus *Latr.*
Tenebrio min. *Linn.*
parallelocollis *Mann.* —
filiformis *Dahl.*

Corticaria Marsham.

grossa *Lec.*
octodentata *Mann.* —
Lathridius oct. *Say.*
serricollis *Lec.*
dentigera *Lec.*
prionodera *Lec.*
rugulosa *Lec.*
spinulosa *Mann.* —
canaliculata *Mann.* —
orbicollis *Mann.* —
kirbyi *Lec.*
denticulata‖ *Kirby.*
obtusa *Lec.*
deleta *Mann.*
longipennis *Lec.*
scissa *Lec.*
americana *Mann.*
expansa *Lec.*
tenella *Lec.*
pusilla *Mann.* —
exigua *Mann.* —
compta *Lec.*
grata *Lec.*
angularis *Lec.*
cavicollis *Lec.*
regularis *Lec.*
levis *Lec.*
herbivagans *Lec.*
morsa *Lec.*
pumila *Mels.*
pusilla *Mels.*
rufula *Lec.*

§

picta *Lec.*
simplex *Lec.*

OTHNIIDAE.

Othnius Lec.

umbrosus *Lec.*
guttulatus *Lec.*

MYCETOPHAGIDAE.

MYCETOPHAGIDAE (genuini).

Mycetophagus Hellw

punctatus *Say.*
flexuosus *Say.*
pluriguttatus *Lec.*
melsheimeri *Lec.*
bimaculatus p. *Mels.*
obscurus *Lec.*
pluripunctatus *Lec.*
pini *Ziegler.*
obsoletus *Mels.*
Tetratoma obs. *Mels.*
bipustulatus *Mels.*

Triphyllus Latr.

ruficornis *Lec.* n. sp.

Litargus Er.

tetraspilotus *Lec.*
sexpunctatus *Er.*
Mycetophagus sexp. *Say.*

transversus *Lec.*
infulatus *Lec.*
balteatus *Lec.*
didesmus *Er.*
Mycetophagus did. *Say.*
nebulosus *Lec.*

Typhaea Curtis.

fumata *Curtis.*
Dermestes fum. *Linn.*
Cryptophagus crenatus|| *Mels.*
Crypt. gilvellus *Mels.*

Berginus Er.

pumilus *Lec.* n. sp.

DIPHYLLIDAE.

Marginus Lec.

rudis *Lec.* n. sp.

Diplocoelus Guérin.

brunneus *Lec.* n. sp.

DERMESTIDAE.

BYTURIDAE.

Byturus Latr.

unicolor *Say.*
grisescens *Lec.*

DERMESTIDAE (genuini).

Dermestes Linn.

marmoratus *Say.*
mannerheimii *Lec.*
marmoratus‡ *Mann.*
fasciatus *Lec.*
caninus *Germ.*
nubilus *Say.*
dissector *Kirby.*
vix a praec. diff.
murinus *Linn.*
sobrinus *Lec.*
talpinus *Mann.*
rattus *Lec.*
mucoreus *Lec.*
pulcher *Lec.*
lardarius *Linn.*
elongatus *Lec.*
vulpinus *Fabr.*
maculatus *De Geer.*
var. D. lupinus *Er.*

Attagenus Latr.

pellio *Steph.*
Dermestes pell. *Linn.*
megatoma *Er.*
Dermestes meg. *Fabr.*
spurcus *Lec.*
?Att. cylindricornis *Say.*
dichrous *Lec.*
rufipennis *Lec.*
cylindricus *Kirby.* —
?angularis *Mann.* —

Dearthrus Lec.

longulus *Lec.* n. sp.

Trogoderma Latr.

ornatum *Lec.*
Megatoma orn. *Say.*
inclusum *Lec.*
pallipes *Zeigler.*
tarsale *Mels.*
pusillum *Lec.*

Cryptorhopalum Guérin.

balteatum *Lec.*
triste *Lec.*
apicale. —
Anthrenus ap. *Mann.*
nigricorne *Lec.*
picicorne *Lec.*
ruficorne *Lec.*
haemorrhoidale *Lec.*
Anthrenus haem. *Lec.*
fusculum *Lec.*

Anthrenus Fabr.

thoracicus *Mels.*
lepidus *Lec.*
adspersus *Herbst.* —
varius *Fabr.*
tricolor *Herbst.*
destructor *Mels.*
flavipes *Lec.*

§

castaneae *Mels.*

Apsectus Lec.

hispidus *Lec.*
Syncalypta hisp. *Mels.*

Orphilus Er.

ater *Er.*
subnitidus *Lec.*

BYRRHIDAE.

NOSODENDRIDAE.

Nosodendron Latr.

unicolor *Say.*

BYRRHIDAE (genuini).

AMPHICYRTINI.

Amphicyrta Er.

chrysomelina *Er.*
dentipes *Er.*
Eucyphus hybosoroides *Mann.*
simplicipes *Mann.* —

Simplocaria Marsh.

tesselata *Lec.*
Byrrhus tess. *Lec.*
metallica *Er.*
Byrrhus met. *Sturm.*
B. picipes *Gyll.*
Simplocaria pic. *Stephens.*
nitida *Motsch.*

Pedilophorus Steff.

oblongus *Lec.*
acuminatus‡ *Lec.*
acuminatus *Lec.*
Morychus ac. *Mann.*
aeneolus *Lec.* n. sp.

BYRRHINI.

Cytilus Er.

varius *Er.*
Byrrhus var. *Fabr.*
B. trivittatus *Mels.*
var. B. alternatus *Say.*

Byrrhus Linn.

kirbyi *Lec.*
picipes|| *Kirby.*
americanus *Lec.*
cyclophorus *Kirby.*
fasciatus *Fabr.*
Cistela stoica *Fabr.*
geminatus *Lec.*
eximius *Lec.*
murinus *Fabr.*
undatus *Mels.*
glabellus *Mels.*

concolor *Kirby.* —
an Cytili varii var.?

Syncalypta Steph.

strigosa *Lec.*
Simplocaria str. *Mels.*
echinata *Lec.*
albonotata *Lec.*
setulosa *Mann.* —

LIMNICHINI.

Limnichus Latr.

olivaceus *Lec.*
punctatus *Lec.*
obscurus *Lec.*
ater *Lec.*
nitidulus *Lec.*
ovatus *Lec.*

Physemus Lec.

minutus *Lec.*

GEORYSSIDAE.

Georyssus Latr.

pusillus *Lec.*

PARNIDAE.

PSEPHENIDAE.

Psephenus Hald.

lecontei *Hald.*
Eurypalpus lec. *Lec.*

PARNIDAE (genuini).

LARINI.

Lara Lec.

avara *Lec.*

PARNINI.

Lutrochus Er.

luteus *Lec.*

Pelonomus Er.

obscurus *Lec.*

Helichus Er.

striatus *Lec.*
fastigiatus *Lec.*
Parnus fast. *Say.*
H. basalis *Lec.*
foveatus *Lec.*
suturalis *Lec.*
productus *Lec.*
aequalis *Lec.*
lithophilus *Er.*
Elmis lith. *Germ.*

ELMIDAE.

Limnius Müller.

fastiditus *Lec.*
ovalis *Lec.* n. sp.

Elmis Latr.

elegans *Lec.*
vittatus *Mels.*
bivittatus *Lec.*
quadrinotatus *Say.*

Stenelmis Dufour.

sinuatus *Lec.*
crenatus *Lec.*
Elmis cr. *Say.*
bicarinatus *Lec.*
pusillus *Lec.*

Macronychus Müller.

glabratus *Say.*
lateralis *Mels.*

Ancyronyx Er.

variegatus *Er.*
Macronychus var. *Germ.*
Elmis cinctus *Say.*

HETEROCERIDAE.

Heterocerus Fabr.

gnatho *Lec.* n. sp.
labratus *Lec.* n. sp.
ventralis *Mels.*
labiatus *Kies.*
auromicans *Kies.*
cuniculus *Kies.*
tristis *Mann.* —
fatuus *Kies.*
substriatus *Kies.* —
miser *Kies.* —
mollinus *Kies.*
collaris *Kies.*
limbatus *Kies.*
luteolus *Lec.* n. sp.
pallidus *Say.* —
pusillus *Say.* —

LUCANIDAE.

LUCANINI.

Lucanus Linn.

elaphus *Fabr.*
dama *Thunb.*
capreolus *Linn.*
placidus *Say.*
lentus *Lap.*

Dorcus McLeay.

mazama *Lec.*
brevis *Say.*
parallelus *Say.*
?Lucanus boeti *Sch.*
costatus *Lec.* n. sp.

Platycerus Geoffr.

quercus *Sch.*
Lucanus qu. *Weber.*
Pl. securidens *Say.*
?Lucanus virescens *Fabr.*
coerulescens *Lec.*
depressus *Lec.*
?piceus‡ *Kirby.*
?oregonensis *Westwood.*
agassii *Lec.*

Ceruchus McLeay.

striatus *Lec.*
piceus *McLeay.*
Lucanus pic. *Weber.*

Sinodendron Hellw.

rugosum *Mann.*
americanum *Beauv.* —
an rite Am. bor.?

PASSALIDAE.

Passalus Fabr.

cornutus *Fabr.*
interruptus‡ *Oliv.*
distinctus *Weber.*

SCARABAEIDAE.

S. LAPAROSTICTI.

COPRINI.

Canthon Hoffm.

- **vigilans** *Lec.*
- **laevis** *Lec.*
  - Scarabaeus laev. *Drury.*
  - Sc. volvens *Fabr.*
  - Ateuchus volv. *Fabr.*
  - Sc. pilularius‡ *De Geer.*
  - Coprobius obtusidens *Zeig.*
- **chalcides** *Hald.*
  - Coprobius ch. *Hald.*
- **ebenus** *Lec.*
  - Ateuchus eb. *Say.*
- **depressipennis** *Lec.*
- **nigricornis** *Lec.*
  - Ateuchus nig. *Say.*
- **praticola** *Lec.*
- **abrasus** *Lec.*
- **simplex** *Lec.*
- **cyanellus** *Lec.*
- **viridis** *Lec.*
  - Copris vir. *Beauv.*
  - Onthopha. viridicatus *Say.*
  - var. At. obsoletus *Say.*
- **perplexus** *Lec.*
- **probus** *Germ.* —

Deltachilum Esch.

- **gibbosum** *Lec.*
  - Ateuchus gibb. *Fabr.*
  - Hyboma gibb. *Lepell.*

Choeridium Lep.

- **capistratum** *Lepell.*
  - Ateuchus cap. *Fabr.*
  - At. histeroides *Weber.*

Copris Geoffr.

- **carolina** *Fabr.*
  - Scarabaeus car. *Linn.*
  - Brachycopris car. *Hald.*
- **moechus** *Lec.*
- **anaglypticus** *Say.*
- **ammon** *Fabr.*
  - Scarabaeus minutus *Drury.*

Phanaeus McLeay.

- **morio** *Lec.* n. sp.
- **difformis** *Lec.*
- **carnifex** *McLeay.*
  - Scarabaeus carn. *Linn.*
- **triangularis** *Lec.*
  - Copris triang. *Say.*
  - var. Ph. torrens *Lec.*
- **nigrocyaneus** *McLeay.*

Onitis Fabr.

- **nicanor** *Fabr.*

Onthophagus Latr.

- **latebrosus** *Sturm.*
  - Copris lat. *Fabr.*
  - Scarabaeus hecate *Panzer.*
  - ?Copris hastator *Fabr.*
  - ?Copris obtecta *Beauv.*
- **protensus** *Mels.*
- **canadensis** *Sturm.*
  - Copris can. *Fabr.*
  - Scarabaeus orpheus *Panz.*
- **subaeneus.** —
  - Copris sub. *Beauv.*
  - an praec. var.?
- **striatulus** *Lec.*
  - Copris str. *Beauv.*
  - Scarabaeus janus *Panz.*
  - Onth. cavicornis *Kirby.*
  - Onth. castaneus *Mels.*
  - Onth. niger *Mels.*
- **scabricollis** *Kirby.*
- **ovatus** *Say.*[1]
  - Scarabaeus ov. *Linn.*

APHODIINI.

Aphodius Ill.

§ Colobopterus Muls.

- **pinguis** *Hald.*
- **hyperboreus** *Lec.*
- **angularis** *Lec.*
  - ?hamatus *Say.*
- **omissus** *Lec.*
  - concavus‡ *Hald.*

§ Teuchestes Muls.

- **fossor** *Fabr.*
  - Scarabaeus foss. *Linn.*

§

- **denticulatus** *Hald.*
- **fimetarius** *Ill.*
  - Scarabaeus fim. *Linn.*
  - Aph. nodifrons *Randall.*
- **curtus** *Hald.*
- **ruricola** *Mels.*
- **foetidus** *Fabr.*
  - tenellus *Say.*
- **congregatus** *Mann.*
- **ursinus** *Mann.*
- **aleutus** *Esch.* —
- **guttatus** *Esch.* —
- **pectoralis** *Lec.*
- **granarius** *Ill.*
  - Scarabaeus gr. *Linn.*
  - Aph. 4-tuberculatus *Fabr.*
  - var. Aph. metallicus *Hald.*
  - var. Aph. spretus *Hald.*
- **aterrimus** *Mels.* —
- **vittatus** *Say.*
- **lividus** *Creutz.*
  - Scarabaeus liv. *Oliv.*
  - Aph. anachoreta *Fabr.*
- **inquinatus** *Fabr.*
  - maculipennis *Mels.*
- **serval** *Say.*
- **pardalis** *Lec.*
- **lutulentus** *Hald.*
- **rubidus** *Lec.*
- **concavus** *Say.*
  - laevigatus *Hald.*
- **copronymus** *Mels.*
  - ?Scarab. rubeolus *Beauv.*
- **consentaneus** *Lec.*
- **stercorosus** *Lec.*
- **terminalis** *Say.*
- **bicolor** *Say.*
- **subaeneus** *Lec.*
- **femoralis** *Say.*
- **oblongus** *Say.*
  - badipes *Mels.*
- **cadaverinus** *Er.*
  - Oxyomus cad. *Mann.*
- **dentiger** *Lec.*
- **militaris** *Lec.*
- **truncatus** *Mels.*
  - var. corvinus *Hald.*
- **striatulus** *Say.*[2]
  - Rhyssemus cribrosus *Lec.*

Euparia Lep.

- **castanea** *Lep.*
- **stercorator** *Er.*
  - Aphodius st. *Fabr.*
- **cognata** *Lec.*
- **strigata** *Lec.*
  - Aphodius str. *Say.*
  - Aph. spretulus *Hald.*
- **puncticollis** *Lec.*
- **abdita** *Lec.*
  - Aphodius abd. *Hald.*
- **gracilis** *Lec.*
  - Oxyomus gr. *Mels.*

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[1] *O. rhinoceros* Mels. is the European *O. xiphias.*

[2] *A. pensvallensis* Mels. is the European *A. erraticus.*

alternata *Lec.*
Oxyomus alt. *Mels.*
imbricata *Lec.*
Aphodius imb. *Mels.*

Rhyssemus Muls.

scaber *Hald.*

Psammodius Gyll.

aegialioides *Hald.*
interruptus *Say.*

Aegialia Latr.

lacustris *Lec.*
caelata *Lec.*
crassa *Lec.*
cylindrica *Mann.*
Psammodius cyl. *Esch.*
Oxyomus cyl. *Mann.*
?clypeata. —
Aphodius clyp. *Say.*

ORPHNINI.

Ochodaeus Lep.

frontalis *Lec.* n. sp.
musculus *Lec.*
Bolbocerus musc. *Say.*
Och. americanus *Westwood.*
simplex *Lec.*
striatus *Lec.*

HYBOSORINI.

Hybosorus McLeay.

arator *McLeay.*
Scarabaeus ar. *Ill.*
Hyb. illigeri *Reiche.*

GEOTRUPINI.

Athyreus McLeay.

ferrugineus *Klug.*
Scarabaeus ferr. *Beauv.*
Bolb. furcicollis *Lap.*
fossatus *Lec.*
Bolboceras foss. *Hald.*
serratus *Lec.*

Bolboceras Kirby.

tumefactus *Klug.*
Scarabaeus tum. *Beauv.*
vix a seq. distinctus.
farctus *Klug.*
Scarabaeus farct. *Fabr.*
Scar. cephus *Oliv.*
lazarus *Lap.*
Scarabaeus l. *Fabr.*
Geotrupes meliboeus *Fabr.*

Odontaeus Klug.

filicornis *Er.*
Bolboceras fil. *Say.*
cornigerus *Lec.*
Bolboceras corn. *Mels.*
obesus *Lec.*

Geotrupes Latr.

egeriei *Germ.*
excrementi *Say.*
opacus *Hald.*
splendidus *Fabr.*
blackburnii *Fabr.*
retusus *McLeay.*

PLEOCOMINI.

Pleocoma Lec.

fimbriata *Lec.*

ACANTHOCERINI.

Acanthocerus McL.

aphodioides *Germ.*
Melolontha aph. *Ill.*
Trox splendidus *Say.*
Scarabaeus latipes *Germ.*
Ac. laevistriatus *Lap.*
globosus *Germ.*
Trox glob. *Say.*
aeneus *McLeay.* —

Sphaeromorphus Germ.

volvox *Germ.*

NICAGINI.

Nicagus Lec.

obscurus *Lec.*

TROGINI.

Trox Fabr.

§ Omorgus Er.

texanus (*Lec.*)
scutellaris *Say.*
suturalis (*Lec.*)
umbonatus (*Lec.*)
scabrosus *Beauv.*
pustulatus (*Lec.*)
?tuberculatus‖ *Beauv.*
asper (*Lec.*)
punctatus *Germ.*
alternatus *Say.*
crenatus‡ *Beauv.*
denticulatus‡ *Beauv.*
?unistriatus *Beauv.*
morsus (*Lec.*)
integer (*Lec.*)
tesselatus (*Lec.*)

§

sonorae *Lec.*
alternans *Lec.*
sordidus *Lec.*
porcatus *Say.*
tuberculatus *Herbst.*
Scarabaeus tub. *De Geer.*
T. serrulatus *Beauv.*
T. canaliculatus *Say.*
erinaceus *Lec.*
terrestris *Say.*
capillaris *Say.*
variolatus *Mels.*
aequalis *Say.*
fascifer *Lec.*
laticollis *Lec.*
striatus *Mels.*
atrox *Lec.*

MELOLONTHIDAE.

GLAPHYRINI.

Dasydera Lec.

ursina *Lec.*
rathvoni *Lec.* n. sp.

Lichnanthe Burm.

vulpina *Burm.*
Amphicoma vulp. *Hentz.*
lupina *Lec.*

ONCERINI.

Lasiopus Lec.

ferrugineus *Lec.*

Oncerus Lec.

floralis *Lec.*

HOPLIINI.

Hoplia Ill.

laticollis *Lec.*

oregona *Lec.*
convexula *Lec.*
pubicollis *Lec.*
callipyge *Lec.*
debilis *Lec.*
modesta *Hald.*
singularis *Burm.*
trifasciata *Say.*
primaria *Burm.*
helvola *Mels.*
♀ tristis *Mels.*
limbata *Lec.*
mucorea *Burm.*
Melolontha muc. *Germ.*
H. monticola *Mels.*

DICHELONYCHINI.

Dichelonycha Kirby.

elongatula *Fitch.*
Melolontha elong. *Schönh.*
Mel. elongata|| *Fabr.*
Mel. hexagona *Germ.*
Dich. elongata *Burm.*
?Dich. virescens *Kirby.*
subvittata *Lec.*
virescens var. *Kirby.*
testacea *Kirby.*
pallens *Lec.*
linearis *Burm.*
Melolontha lin. *Gyll.*
fulgida *Lec.*
backii *Kirby.*
fuscula *Lec.*
truncata *Lec.*
rotundata *Lec.*
valida *Lec.*
albicollis *Burm.*
sulcata *Lec.*
pusilla *Lec.*

SERICINI.

Serica McLeay.

§ Camptorrhina Kirby.

vespertina *Lec.*
Melolontha vesp. *Schönh.*
Omaloplia vesp. *Harris.*
C. atricapilla *Kirby.*
texana *Lec.*
atratula *Lec.*
serotina *Lec.*

§

iricolor *Burm.*
Melolontha ir. *Say.*
fimbriata *Lec.*
tristis *Lec.*
sericea *Burm.*
Melolontha ser. *Ill.*
curvata *Lec.*
mixta *Lec.*
alternata *Lec.*
anthracina *Lec.*
frontalis *Lec.*
robusta *Lec.*
trociformis *Burm.*
?Melol. aphodiina *Bilb.*

MACRODACTYLINI.

Macrodactylus Latr.

subspinosus *Latr.*
Melolontha subsp. *Fabr.*
setulosus *Lec.*
angustatus *Lec.*
Melolontha ang. *Beauv.*
Mel. elongata|| *Herbst.*
Mac. polyphagus *Burm.*

SERICOIDINI.

Hypotrichia Lec.

spissipes *Lec.*

DIPLOTAXINI.

Orsonyx Lec.

anxius *Lec.*

Diazus Lec.

rudis *Lec.*

Diplotaxis Kirby.

sordida *Lec.*
Melolontha sord. *Say.*
Dipl. carbonaria *Burm.*
puberula *Lec.* n. sp.
subcostata *Blanchard.*
liberta *Burm.*
Melolontha lib. *Germ.*
Mel. moesta|| *Say.*
brevicollis *Lec.*
obscura *Lec.*
tristis *Kirby.*
excavata *Lec.*
frontalis *Lec.*
punctatorugosa *Blan.* —
georgiae *Blanch.* —
frondicola‡ *Blanch.* —
castanea *Burm.* —
an D. subcostata?
corpulenta *Burm.* —
angularis *Lec.*
moerens *Lec.*
punctipennis *Lec.*
texana *Lec.*
harperi *Blanch.*
frondicola *Lec.*
Melolontha fr. *Say.*
Dipl. testacea *Burm.*
dubia *Lec.*
truncatula *Lec.*
consors *Lec.*
carbonata *Lec.*
atratula *Lec.*
morula *Lec.*
punctata *Lec.*
cribulosa *Lec.*
subangulata *Lec.*
bidentata *Lec.*
tenuis *Lec.*

§

corvina *Lec.*
pacata *Lec.*

§

brevidens *Lec.*
haydenii *Lec.*
innoxia *Lec.*

Alobus Lec.

fulvus *Lec.*
an rite Am. bor.?

MELOLONTHINI.

Eugastra Lec.

cribrosa *Lec.*
Tostegoptera cr. *Lec.*
ventricosa *Lec.*
Tostegoptera ventr. *Lec.*

Endrosa Lec.

quercus *Lec.*
Melolontha qu. *Knoch.*
M. fervida‡ *Ill.*
Ancylonycha qu. *Burm.*
volvula *Lec.*

Lachnosterna Hope.

farcta *Lec.*
torta *Lec.*
frontalis *Lec.*
longitarsis *Lec.*
Melolontha long. *Say.*
dispar *Lec.*
Trichestes disp. *Burm.*
latifrons *Lec.*
cerasina *Lec.*

- **ephelida** *Lec.*
  - Melolontha eph. *Say.*
  - Trichestes eph. *Burm.*
- **burmeisteri** *Lec.*
  - Trich. longitarsis‡ *Burm.*
- **glaberrima** *Lec.*
  - Ancylonycha gl. *Blanch.*
- **inana** *Lec.*
- **congrua** *Lec.*
- **futilis** *Lec.*
- **fusca** *Lec.*
  - Melolontha fusca *Fröhl.*
  - Mel. quercina *Knoch.*
  - Mel. fervens *Gyll.*
  - Mel. fervida‡ *Ol.*
  - L. quercina *Lec.*
  - Ancylonycha qu. *Burm.*
- α. **consimilis** *Lec.*
- β. **anxia** *Lec.*
  - Anc. brevicollis *Blanch.*
- γ. **brevicollis** (*Burm.*)
- δ. **puncticollis** (*Blanch.*)
- ε. **drakii** (*Kirby.*)
- **profunda** (*Blanch.*) —
  - var. praec. fide Burm.
- **uniformis** (*Blanch.*) —
  - var. praec. fide Burm.
- **cephalica** *Lec.*
- **decidua** *Lec.*
- **sororia** *Lec.*
- **micans** *Lec.*
  - Melolontha mic. *Knoch.*
  - Ancylonycha mic. *Blanch.*
- **serricornis** *Lec.*
- **semicribrata** *Lec.*
- **lugubris** *Lec.*
- **cognata** *Lec.*
  - ?Ancylonycha cogn. *Burm.*
- **fraterna** *Lec.*
  - Phyllophaga fr. *Harris.*
  - Ancylonycha fr. *Burm.*
- **lutescens** *Lec.*
- **corrosa** *Lec.*
- **calceata** *Lec.*
- **marginalis** *Lec.*
- **obesa** *Lec.*
- **prunina** *Lec.*
  - Ancyl. pruinosa‖ *Mels.*
- **rugosa** *Lec.*
- **affinis** *Lec.*
- **knochii** *Lec.*
  - Melolontha kn. *Gyll.*
  - Ancylonycha kn. *Blanch.*
- **ilicis** *Lec.*
  - Melolontha il. *Knoch.*
  - Mel. porcina *Hentz.*
  - Ancylonycha il. *Blanch.*
  - Anc. fimbriata *Burm.*
- **ciliata** *Lec.*
- **ilicis**‡ (*Burm.*) —
- **subtonsa** *Lec.*
- **hirticula** *Hope.*
  - Melolontha hirt. *Knoch.*
  - Mel. hirsuta‡ *Say.*
  - Phylloph. hirt. *Harris.*
  - Ancyl. hirt. *Burm.*
- **hirsuta** *Lec.*
  - Melolontha hirs. *Knoch.*
  - Ancylonycha hirs. *Blanch.*
- **balia** *Lec.*
  - Melolontha balia *Say.*
  - Ancyl. comata *Burm.*
- **villifrons** *Lec.*
- **hirticeps** *Lec.*
- **nitida** *Lec.*
- **rufiola** *Lec.*
- **robusta** *Lec.*
- **integra** *Lec.*
- **longicornis** (*Burm.*) —
- **crassissima** *Blanch.* —
- **diffinis** (*Burm.*) —
- **gibbosa** (*Burm.*) —
- **forsteri** (*Burm.*) —

§ HOLOTRICHIA Hope?

- **crenulata** *Lec.*
  - Melolontha cr. *Fröhl.*
  - Mel. georgicana *Gyll.*
  - Phyllophaga georg. *Harris.*
  - Ancylonycha cr. *Blanch.*
- **albina** *Lec.*
  - Ancylonycha alb. *Burm.*
- **parvidens** *Lec.*
- **rubiginosa** *Lec.*
- **submucida** *Lec.*
- **glabricula** *Lec.*
- **glabripennis** *Lec.*

§ TRICHESTHES Er.

- **tristis** *Lec.*
  - Melolontha tr. *Fabr.*
  - M. pilosicollis *Kn.*
  - Trichesthes pil. *Er.*
  - Trichestes tr. *Burm.*
- **crinita** (*Burm.*)
- **comans** (*Burm.*) —
- **prununculina** (*Burm.*) —
- **gracilis** (*Burm.*) —
- **maculicollis** *Lec.* n. sp.
- **nitidula** *Lec.* n. sp.

Gynnis Lec.

- **debilis** *Lec.*
  - an rite Am. bor.?

Listrochelus Blanch.

- **densicollis** *Lec.* n. sp.
- **mucoreus** *Lec.*
- **texanus** *Lec.*
- **obtusus** *Lec.*
- **falsus** *Lec.*
- **fimbripes** *Lec.*
- **scoparius** *Lec.*
- **puberulus** *Lec.* n. sp.

Tostegoptera Blanch.

- **lanceolata** *Blanch.*
  - Melolontha lanc. *Say.*
  - Ancylonycha lanc. *Lac.*
  - Lachnosterna lanc. *Lec.*
- **aequalis** *Lec.*
  - Lachnosterna aeq. *Lec.*

Polyphylla Harris.

- **hammondi** *Lec.*
- **cavifrons** *Lec.*
- **subvittata** *Lec.*
- **decemlineata** *Lec.*
  - Melolontha 10-lin. *Say.*
- **crinita** *Lec.*
- **variolosa** *Harris.*
  - Melolontha var. *Hentz.*
- **occidentalis** *Er.*
  - Scarabaeus occ. *Linn.*
  - Melolontha occ. *Herbst.*

Thyce Lec.

- **squamicollis** *Lec.*

MACROPHYLLINI.

Phobetus Lec.

- **comatus** *Lec.*
- **testaceus** *Lec.*

S. PLEUROSTICTI.

RUTELINI.

Anomala Koeppe.

- **parvula** *Burm.*
- **varians** *Burm.*
  - Melolontha var. *Fabr.*
  - Mel. variegata *Latr.*
  - An. undulata *Mels.*
  - An. maculata *Lap.*
- **minuta** *Burm.*
- **flavipennis** *Burm.*
  - dichroa *Mels.*
- **luteipennis** *Lec.*
- **binotata** *Burm.*
  - Melolontha bin. *Gyll.*
  - Mel. unifasciata *Say.*
  - An. marginella *Lec.*
- **inconstans** *Burm.*
- **centralis** *Lec.* n. sp.

§ Spilota Dej.

marginata *Burm.*
Melolontha marg. *Fabr.*
Mel. annulata *Germ.*
lucicola *Burm.*
Melolontha luc. *Fabr.*
var. Mel. moerens *Fabr.*
var. An. pinicola *Mels.*
var. Mel. atrata *Fabr.*
An. nigritula *Lap.*

Strigoderma Burm.

pygmaea *Burm.*
Melolontha pygm. *Fabr.*
arboricola *Burm.*
Melolontha arb. *Fabr.*

Pelidnota McLeay.

punctata *McLeay.*
Scarabaeus punct. *Linn.*
var. Mel. lutea *Oliv.*
lucae *Lec.* n. sp.

Plusiotis Burm.

gloriosa *Lec.*

Cotalpa Burm.

lanigera *Burm.*
Scarabaeus lan. *Linn.*
Melolontha lan. *Fabr.*
puncticollis *Lec.*
granicollis *Hald.*

DYNASTINI.

Cyclocephala Latr.

immaculata *Burm.*
Melolontha im. *Oliv.*
Mel. nigrifrons *Panzer.*
longula *Lec.* n. sp.
seditiosa *Lec.* n. sp.
robusta *Lec.* n. sp.
nigricollis *Burm.*—
villosa *Burm.*
hirta *Lec.*
puberula *Lec.* n. sp.

Chalepus McLeay.

obsoletus *Lec.*
trachypygus *Burm.*

Ligyrus Burm.

morio *Lec.*
Bothynus mor. *Lec.*
gibbosus *Lec.*
Scarabaeus gibb. *De Geer.*
Podalgus variolosus *Burm.*
Lig. variolosus *Burm.*
var. Both. obsoletus *Lec.*
juvencus *Burm.*
?Scarabaeus juv. *Oliv.*
?Geotrupes juv. *Fabr.*
Podalgus juv. *Burm.*
Both. neglectus *Lec.*
ruginasus *Lec.*
relictus *Lec.*
Scarabaeus rel. *Say.*
Heteronychus rel. *Burm.*
Bothynus rel. *Lec.*

Aphonus Lec.

pyriformis *Lec.*
Bothynus pyr. *Lec.*
tridentatus *Lec.*
Scarabaeus trid. *Say.*
Bothynus trid. *Lec.*
frater *Lec.*
hydropicus *Lec.*
Both. variolosus‖ *Lec.*
castaneus *Lec.*
Bothynus cast. *Mels.*
Podalgus obesus *Burm.*
?clunalis *Lec.*

Polymoechus Lec.

brevipes *Lec.*

Xyloryctes Hope.

satyrus *Burm.*
Geotrupes sat. *Fabr.*
Scarabaeus sat. *Ol.*
Sc. nasicornis amer. *Beauv.*

Strategus Hope.

antaeus *Burm.*
Geotrupes ant. *Fabr.*
♀ Scarab. boscii *Beauv.*
mormon *Burm.*
julianus *Burm.*
splendens *Lec.*
Scarabaeus spl. *Beauv.*

Dynastes Kirby.

tityus *Hope.*
Scarabaeus tit. *Linn.*
Geotrupes tit. *Fabr.*
♀ Scar. marianus *Linn.*
Sc. pensylvanicus *De Geer.*

Megasoma Kirby.

thersites *Lec.*

Phileurus Latr.

vitulus *Lec.* n. sp.
truncatus *Burm*
Scarabaeus tr. *Beauv.*
valgus *Dej.*
Geotrupes valg. *Fabr.*
Ph. castaneus *Hald.*
illatus *Lec.*
cribrosus *Lec.*

CETONIINI.

Allorhina Burm.

§ Cotinis Burm.

mutabilis *Lac.*
Gymnetis mut. *Gory.*
nitida *Lac.*
Scarabaeus nit. *Linn.*
Cetonia nit. *Fabr.*
Gymnetis nit. *McL.*

Gymnetis McLeay.

sallei *Schaum.*
tristis‡ *Burm.*
cretacea *Lec.*[1] n. sp.

Euryomia Burm.

§ Euphoria Burm.

fascifera *Lec.*
melancholica *Lac.*
Cetonia mel. *Gory.*
Euphoria mel. *Schaum.*
sepulchralis *Lac.*
Cetonia sep. *Fabr.*
Cet. lurida‡ *Oliv.*
Cet. reiche *Gory.*
Euphoria sep. *Burm.*
basalis *Lac.*
Cetonia bas. *Gory.*
canescens *Lac.*
Cetonia can. *Burm.*
dimidiata *Lac.*
Cetonia dim. *Gory.*
vestita *Lec.*
Cetonia vest. *Say.*
kernii *Lac.*
Euphoria cernii *Hald.*
Erirhipis kernii *Lec.*
var. Er. clarkii *Lec.*

§ Erirhipis Burm.

inda *Lac.*
Scarabaeus indus *Linn.*
Cetonia inda *Oliv.*
Trichius indus *Fabr.*
Cet. marylandica *Fröhl.*
Cet. barbata *Say.*
Cet. brunnea *Gory.*

schottii *Lac.*
Erirhipis sch. *Lec.*
herbacea *Lac.*
Cetonia herb. *Oliv.*
Cet. pubera *Schönh.*
Cet. antennata *Gory.*
Euphoria herb. *Sch.*
Erirhipis pub. *Burm.*
californica *Lec.* n. sp.
fulgida *Lac.*
Cetonia fulg. *Fabr.*
Erirhipis fulg. *Burm.*

§ STEPHANUCHA Burm.

areata *Lac.*
Cetonia ar. *Fabr.*
Stephanucha ar. *Burm.*

Cremastochilus Kn.

§ PSILOCNEMIS Burm.

leucostictus (*Burm.*) —
politus *Schaum.*
planatus *Lec.* n. sp.
saucius *Lec.*
nitens *Lec.*
schaumii *Lec.*
angularis *Lec.*
knochii *Lec.*

§

variolosus *Kirby.*
sayi *Harris.*
castaneae‡ *Gory.*
squamulosus *Lec.*

§

canaliculatus *Kirby.*
hentzii *Harris.*
castaneae *Burm.*
castaneae *Knoch.*
harrisii *Kirby.*

Osmoderma Lep.

eremicola *Dej.*
Cetonia er. *Knoch.*
Trichius er. *Say.*
scabra *Dej.*
Trichius sc. *Beauv.*
♂ Gymnodus foveatus *Kirb.*
♀ Gymnod. rugosus *Kirby.*

Gnorimus Lep.

maculosus *Burm.*
Cetonia mac. *Knoch.*
Trichius mac. *Schönh.*
Trich. bigsbii *Kirby.*
Gn. dissimilis *Gory.*

Trichius Fabr.

piger *Fabr.*
drummond *Gory.*
rotundicollis *Kirby.*
bibens *Fabr.*
Cetonia bidens *Oliv.*
viridulus *Fabr.*
Cetonia vir. *Oliv.*
bibens‡ *Burm.*
var. Tr. lunulatus *Fabr.*
affinis *Gory.*
assimilis *Kirby.*
bistriga *Newm.*
var. viridans *Kirby.*
bibens var.‡ *Burm.*

§ TRIGONOPELTASTES Burm.

delta *Fabr.*
Scarabaeus delta *Forster.*
Cetonia delta *Oliv.*

Valgus Scriba.

canaliculatus *Gory.*
Trichius can. *Fabr.*
Cetonia can. *Oliv.*
Trich. variegatus *Beauv.*
squamiger *Gory.*
Trichius sq. *Beauv.*
Tr. seticollis *Beauv.*

BUPRESTIDAE.

BUPRESTINI.

Gyascutus Lec.

planicosta *Lec.*
Chalcophora pl. *Lec.*
obliteratus *Lec.*
Chalcophora obl. *Lec.*
caelatus *Lec.*
Chalcophora cael. *Lec.*
sphenicus *Lec.*
Buprestis sph. *Lec.*

Chalchophora Sol.

angulicollis *Lec.*
Buprestis ang. *Lec.*
Chalc. oregonensis *Fitch.*
lacustris *Lec.*
virginiensis *Lec.*
Buprestis virg. *Drury.*
Bup. virginica *Say.*
Bup. mariana *Linn.*
Ch. liberta var.‡ *Fitch.*
Ch. novaeboracensis *Fitch.*
georgiana *Lec.*
Buprestis georg. *Lec.*
Bup. liberta‡ *Lap.*
liberta *Fitch.*
Buprestis lib. *Germ.*
Bup. borealis *Lap.*
fortis *Lec.*
campestris *Lec.*
Buprestis camp. *Say.*
Bup. substrigosa *Lap.*
langeri *Chevr.* —

Psiloptera Sol.

webbii *Lec.*
woodhousei *Lec.*
Dicerca woodh. *Lec.*
var. Ps. valens *Lec.*

Dicerca Esch.

prolongata *Lec.*
divaricata *Lec.*
Buprestis div. *Say.*
Bup. acuminata‡ *Lap.*
Dic. dubia *Mels.*
Dic. aurichalcea *Mels.*
Dic. parumpunctata *Mels.*
caudata *Lec.*
?Apatura caud. *Lap.*
pugionata *Lec.*
Buprestis pug. *Germ.*
mutica *Lec.*
obscura *Lec.*
Buprestis obsc. *Fabr.*
?Bup. pruinosa *Lap.*
baltimorensis *Lec.*
Buprestis balt. *Herbst.*
soror *Lec.*
lurida *Lec.*
Buprestis lur. *Fabr.*
Dic. indistincta *Mels.*
lepida *Lec.*
Bup. pugionata‡ *Lap.*
spreta *Lec.*
Buprestis spr. *Lap.*
Dic. molitor *Mels.*
asperata *Lec.*
Buprestis asp. *Lap.*
Dic. impressifrons *Mels.*
?Bup. americana *Herbst.*
tenebrosa *Lec.*
B. (Stenuris) tene. *Kirby.*
hilaris *Lec.*
lugubris *Lec.*
chrysea *Mels.*
punctulata *Fitch.*
Buprestis punct. *Schönh.*
Bup. transversa *Say.*
manca *Lec.*
tuberculata *Fitch.*
Buprestis tub. *Lap.*
Bup. scobina *Chevr.*
Dic. consobrina *Mels.*

lacustris *Lec.*
?B. (Stenuris) tenebrica
bifoveata *Lec.* [*Kirby.*
crassicollis *Lec.*
pectorosa *Lec.*
lecontei *Gory.* —

Poecilonota Esch.

cyanipes *Lec.*
Buprestis cyan. *Say.*
erecta (*Gory.*) —
ferrea *Lec.*
Dicerca ferr. *Mels.*
thureura *Lec.*
Buprestis th. *Say.*
Bup. costicollis *Gory.*
debilis *Lec.*

Ancylochira Esch.

rufipes *Dej.*
Buprestis ruf. *Fabr.*
gibbsii *Lec.*
sexplagiata *Lec.*
langii *Lec.*
Bup. langii *Mann.*
fasciata *Dej.*
Buprestis fasc. *Fabr.*
Bup. 6-maculata *Herbst.*
confluens *Lec.*
Buprestis confl. *Say.*
lineata *Dej.*
Buprestis lin. *Fabr.*
var. B. maculipennis *Gory.*
B. inconstans *Mels.*
laeviventris *Lec.*
nuttalli *Lec.*
B. (Anoplis) nutt. *Kirby.*
consularis *Dej.*
Buprestis cons. *Gory.*
alternans *Lec.*
subornata *Lec.*
maculiventris *Lec.*
Buprestis mac. *Say.*
Bup. sexnotata *Lap.*
rusticorum *Lec.*
B. (Anoplis) rust. *Kirby.*
paganorum (*Kirby.*) —

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sulcicollis *Lec.*
striata *Lec.*
Buprestis str. *Fabr.*
Bup. impedita *Say.*
Bup. aurulenta‡ *Oliv.*
lauta *Lec.*
radians *Lec.*
adjecta *Lec.*
decora *Dej.*
Buprestis dec. *Oliv.*
Bup. salisburiensis *Weber.*
?Bup. aurulenta *Linn.*
ultramarina *Lec.*
Buprestis ultr. *Say.*
apricans *Lec.*
Buprestis apr. *Herbst.*
Bup. bosci *Lap.*

Cinyra Lap.

gracilipes *Lec.*
Dicerca gr. *Mels.*
erythropus *Gory.*
an rite Am. bor.?

Melanophila Esch.

miranda *Lec.*
Phaenops mir. *Lec.*
consputa *Lec.*
notata *Lec.*
Apatura not. *Lap.*
Mel. luteosignata *Zeigler.*
longipes *Gory.*
Buprestis long. *Say.*
Ap. appendiculata *Lap.*
Mel. immaculata *Gory.*
atropurpurea *Lec.*
Buprestis atr. *Say.*
opaca *Lec.*
drummondi *Lec.*
B. (Trachypteris) dr. *Kirby.*
Apatura dr. *Lap.*
Mel. guttulata‡ *Mann.*
fulvoguttata *Lec.*
Buprestis fulv. *Harris.*
Apatura 8-spilota *Lap.*
Ap. croceosignata *Lap.*
Ap. decolorata *Lap.*
gentilis *Lec.*
prasina‖ *Lec.*
aeneola *Mels.*
metallica *Mels.*

Anthaxia Esch.

expansa *Lec.*
foveicollis *Lec.*
strigata *Lec.*
?aeneogaster *Lap.*
imperfecta *Lec.*
retifer *Lec.*
inornata *Lec.*
Buprestis in. *Randall.*
cyanella *Gory.*
scoriacea *Mels.*
subaenea *Lec.*
viridicornis‡ *Lap.*
viridicornis *Lec.*
Buprestis vir. *Say.*
viridifrons *Gory.*
quercata *Lap.*
Buprestis qu. *Fabr.*
B. viridicornis‡ var. *Say.*
cuneiformis *Gory.*
flavimana *Gory.*
gracilis *Mels.*
bivittata *Gory.* —

Chrysobothris Esch.

octocola *Lec.*
basalis *Lec.*
?atabalipa *Lap.*
exesa *Lec.*
femorata *Lec.*
Buprestis fem. *Fabr.*
α. **alabamae** *Gory.*
β. **quadriimpressa** *Lap.*
dentipes‡ *Lap.*
viridiceps *Mels.*
rugosiceps *Mels.*
soror *Lec.*
semisculpta *Lec.*
lesueuri *Lap.*
obscura *Lec.*
misella *Lec.*
quadrilineata *Lec.*
texana *Lec.*
calcarata *Mels.*
femorata‡ *Lap.*
planata *Lap.* (f. Deyrolle.)
cuprascens *Lec.*
contigua *Lec.*
dentipes *Lec.*
Buprestis dent. *Germ.*
B. characteristica *Harris.*
?Chr. planata *Lap.*
californica *Lec.*
vulcanica *Lec.*
trinervia *Lec.*
B. (Odontomus) trin. *Kirby.*
Chr. cicatricosa *Motsch.*
scabripennis *Lap.*
pusilla *Lap.*
strangulata *Mels.*
debilis *Lec.*
disjuncta *Lec.*
deleta *Lec.*
acuminata *Lec.*
gemmata *Lec.*
sexsignata *Lec.*
Bup. sexguttata‖ *Say.*
B. sexsignata *Say.*
Chr. germari *Lap.*
Chr. ignipes *Lap.*
analis *Lec.*
hybernata *Lec.*
Buprestis hyb. *Fabr.*
Chr. viridipunctata *Lap.*
?Chr. hybernata *Lap.*
Bup. chrysellus *Ill.*

concinnula *Lec.*
azurea *Lec.*
ultramarina *Lap.*
harrisii *Lec.*
Buprestis harr. *Hentz.*
scitula *Gory.* —
chlorocephala *Gory.* —
aeneola *Lec.*
ulkei *Lec.*
nigrofasciata *Lec.*
nigritula *Lap.* —
errans *Gory.* —
floricola *Gory.* —
dissimilis *Gory.* —

Actenodes Lac.

bella *Lec.*
acornis *Lec.*
Buprestis ac. *Say.*
Chr. rugosula *Gory.*
Chr. punctata *Mels.*

Belionota Esch.

californica *Motsch.* —

THRINCOPYGINI.

Thrincopyge Lec.

alacris *Lec.*
ambiens *Lec.*
Buprestis amb. *Lec.*

JULODINI.

Polycesta Sol.

elata *Lec.*
cavata *Lec.*
californica *Lec.*
obtusa *Lec.*
velasco *Lap.*

Acmaeodera Esch.

flavomarginata *Gray.*
opacula *Lec.*
haemorrhoa *Lec.*
connexa *Lec.*
croceonotata *Gory.*
acuta *Lec.*
ornata *Lap.*
Buprestis orn. *Fabr.*
subbalteata *Lec.* n. sp.
comata *Lec.*
gibbula *Lec.*
pulchella *Lec.*
Buprestis pulch. *Herbst.*
?Bup. ornata *Oliv.*
Ac. ornata *Spin.*
Ac. volvulus‡ *Lap.*
Ac. flavosignata *Gory.*
?Ac. dispar *Gory.*
variegata *Lec.*
mixta *Lec.*
hepburnii *Lec.*
semivittata *Lec.*
retifera *Lec.*
texana *Lec.*
tubulus *Lap.?*
Buprestis tub. *Fabr.*
Bup. culta *Weber.*
Bup. geranii *Harris.*
guttifera *Lec.*

Ptosima Sol.

luctuosa *Gory.*
Bupr. gibbicollis‖ *Say.*
walshii *Lec.* n. sp.

Chrysophana Lec.

placida *Lec.*

HAPLOSTETHINI.

Haplostethus Lec.

subcyaneus *Lec.*

AGRILINI.

Coraebus Lap.

cogitans *Lec.*
Buprestis cog. *Weber.*
Agrilus cog. *Say.*
Bup. ignara *Fabr.*
Eumerus ign. *Lap.*
Rhaeboscelis cog. *Lec.*[1]

Rhaeboscelis Chevr.

tenuis *Lec.* n. sp.

Agrilus Sol.

fuscipennis *Gory.*
vittaticollis *Randall.* —
frenatus *Gory.*
arcuatus *Say.*
cupricollis *Gory.*
ruficollis *Say.*
Buprestis ruf. *Fabr.*
torquatus *Lec.*
fulgens *Lec.*
obliquus *Lec.*
defectus *Lec.*
otiosus *Say.*
?virens *Gory.*
pusillus *Say.*
difficilis *Gory.*
occidentalis *Uhler.*
bilineatus *Say.*
Buprestis bil. *Weber.*
Ag. bivittatus *Kirby.*
Ag. flavolineatus *Mann.*
Ag. aurolineatus *Gory.*
granulatus *Say.*
quadriguttatus *Gory.*
subfasciatus *Lec.*
fallax *Say.*
impressipennis *Uhler.*
zemes *Gory.* —
interruptus *Lec.*
?obsoletoguttatus *Gory.*
subcinctus *Gory.*
latebrus *Lap.*
acutipennis *Mann.*
quadriimpressus *Ziegler.*
torpidus *Lec.*
anxius *Gory.*
gravis *Lec.*
plumbeus *Lec.*
muticus *Lec.*
macer *Lec.*
cupreolus *Lec.*
obolinus *Lec.*
politus *Say.*
desertus *Lec.*
puncticeps *Lec.*
?Bup. geminata *Say.*
?Agrilus gem. *Say.*
?Agr. nigricans *Gory.*
cephalicus *Lec.*
egenus *Gory.*
lacustris *Lec.*
lateralis *Say.* —
putillus *Say.* —

Taphrocerus Sol.

gracilis *Lec.*
Trachys grac. *Say.*
Aphanisticus gr. *Say.*
Br. alboguttata *Mann.*

Brachys Sol.

ovata *Lec.*
Buprestis ov. *Weber.*
Trachys tesselata *Fabr.*
Br. aurulenta *Kirby.*
Br. molesta *Gory.*
var. Br. tesselata *Lap.*

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[1] *C. caliginosus* Lap. appears to be the European *C. rubi.*

lugubris *Lec.*
laevicauda *Lec.*
terminans *Lap.*
Trachys term. *Fabr.*
Br. aerosa *Mels.*
aeruginosa *Gory.*
carbonata *Lec.*

Metonius Say.

purpureus *Say.*
Brachys purp. *Lec.*
Br. americana *Gory.*
laevigatus *Lec.*
Trachys ovata‖ *Say.*
Tr. laevigata *Say.*
Met. ovatus *Say.*
Br. punctata *Gory.*
Br. laevigata *Lec.*

THROSCIDAE.

THROSCINI.

Throscus Latr.

calocerus *Bonv.* —
constrictor *Say.*
alienus *Bonv.*
constrictor‡ *Bonv.*
punctatus *Bonv.*
chevrolati *Bonv.*
parvulus *Lec.*

DRAPETINI.

Drapetes Redt.

extriatus *Lec.*
Elater geminatus‖ *Say.*
Elater extr. *Say.*
Dr. geminatus *Bonv.* (syn. excl.)
quadripustulatus *Bonv.*
nitidus *Bonv.*
Lissomus nit. *Mels.*
?Dr. niger *Bonv.*
rubricollis *Lec.* n. sp.
plagiatus. —
Lissomus plag. *Boh.*

ELATERIDAE.

EUCNEMIDAE.

MELASINI.

Melasis *Oliv.*

pectinicornis *Mels.*

Tharops *Lap.*

ruficornis *Lec.*
Melasis rufic. *Say.*
Euc. (Nematodes) ruf. *Say.*
obliquus *Lec.*
Eucnemis obl. *Say.*

EUCNEMINI.

Dendrocharis Guér.

flavicornis *Guér.*

Eucnemis Ahrens.

clypeatus *Say.*
Elater clyp. *Say.*
amoenicornis *Say.*

Fornax Lap.

orchesides *Lec.*
Onychodon orch. *Newm.*
bicolor *Lec.*
Hylochares? bic. *Mels.*
badius *Lec.*
Dirhagus bad. *Mels.*
rufipes *Lec.*
Dirhagus ruf. *Mels.*
monilicornis *Lec.*
Eucnemis mon. *Mann.*
cylindricollis *Lec.*
Eucnemis cyl. *Say.*
striatus *Lec.*
calceatus *Lec.*
Eucnemis calc. *Say.*
Isarthrus spretus *Lec.*
Fornax spretus *Lec.*

Microrhagus Esch.

imperfectus *Lec.*
subsinuatus *Lec.*
Eucn. triangularis‡ *Harris.*
triangularis *Lec.*
Elater triang. *Say.*
Eucnemis triang. *Say.*
humeralis *Lec.*
Eucnemis hum. *Lec.*

Phlegon Lap.

heterocerus *Lac.*
Eucnemis het. *Say.*
Euryptychus het. *Lec.*

Epiphanis Esch.

cornutus *Esch.*
cristatus *Lec.*

Nematodes Latr.

atropos *Lec.*
Eucnemis atr. *Say.*
Emathion atr. *Lec.*
penetrans *Lec.*
Emathion pen. *Lec.*
frontosus *Lec.*
Eucnemis front. *Say.*
Epiph. canaliculatus *Lec.*
? **subrufus.** —
El. (Euc.) subr. *Randall.*

Hylochares Latr.

nigricornis *Lec.*
Melasis nigr. *Say.*

Anelastes Kirby.

druryi *Kirby.*
Silenus brunneus *Latr.*
? Elater erosus *Say.*
latreillei *Lec.*

CEROPHYTIDAE.

CEROPHYTINI.

Cerophytum Latr.

pulsator *Hald.*
Chorea puls. *Hald.*

PEROTHOPINI.

Perothops Er.

mucidus *Er.*
Elater muc. *Schönp.*
Eucnemis musc. *Say.*
Elater unicolor *Say.*
Eucnemis un. *Say.*
witticki *Lec.*

ELATERIDAE (genuini).

AGRYPNINI.

Agrypnus Esch.

sallei *Lec.*
schottii *Lec.*

Adelocera Latr.

avita *Lec.*
Elater av. *Say.*
impressicollis *Lec.*
Elater imp. *Say.*
El. lepturus‖ *Say.*
Ad. senilis *Germ.*

pennata *Germ.*
Elater penn. *Fabr.*
El. discoideus *Weber.*
El. cruentus *Oliv.*
aurorata *Lec.*
Elater aur. *Say.*
rorulenta *Lec.*
marmorata *Germ.*
Elater marm. *Fabr.*

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obtecta *Lec.*
Elater obtectus *Say.*
cavicollis *Lec.*
profusa *Cand.* —
brevicornis *Lec.*

Lacon Germ.

mucoreus *Lec.*
Adelocera muc. *Lec.*
curtus *Lec.*
Adelocera curt. *Lec,*
rectangularis *Lec.*
Elater rect. *Say.*
Adelocera rect. *Lec.*

CHALCOLEPIDIINI.

Chalcolepidius Esc.

rubripennis *Lec.*
webbii *Lec.*
smaragdinus *Lec.*
viridipilis *Lec.*
Elater vir. *Lec.*
?Chalch. prasinus *Er.*

Alaus Esch.

gorgops *Lec.*
oculatus *Esch.*
Elater oc. *Linn.*
myops *Esch.*
Elater myops *Fabr.*
El. luscus‡ *Ol.*
melanops *Lec.* n. sp.

HEMIRHIPINI.

Hemirhipus Latr.

fascicularis *Germ.*
Elater fasc. *Fabr.*

ELATERINI.

Cardiophorus Esch.

amictus *Mels.*
erythropus‡ *Lec.*
?El. convexus *Say.*
erythropus *Er.*
saturninus *Lec.*
insulsus *Cand.*
?filius. —
Elater fil. *Randall.*
cardisce *Lec.*
Elater card. *Say.*
var. C. convexus‡ *Er.*
fenestratus *Lec.*
lorquinii *Cand.*
dejeanii *Lec.*
tumidicollis *Lec.*
convexulus *Lec.*
gagates *Er.*
longior *Lec.*
luridipes *Cand.*
fulvipes *Lec.*
tenebrosus *Lec.*
obscurus *Lec.*
amplicollis *Motsch.* —
latiusculus *Esch.*
laevicollis *Er.*
robustus *Lec.*

Horistonotus Cand.

sufflatus *Cand.*
Cardiophorus suffl. *Lec.*
inanus *Cand.*
Cardiophorus in. *Lec.*
transfugus *Cand.*
Cardiophorus transf. *Lec.*
curiatus *Cand.*
Elater cur. *Say.*
Cardiophorus cur. *Lec.*
Card. areolatus‡ *Er.*
simplex *Lec.* n. sp.
densus *Lec.* n. sp.

Esthesopus Esch.

claricollis *Lec.*
Elater clar. *Say.*
humilis *Cand.*

Cryptohypnus Esch.

squalidus *Lec.*
planatus *Lec.* n. sp.
funebris *Cand.*
hyperboreus *Gyll.*
grandicollis *Lec.* n. sp.
littoralis *Dej.*
Hypolithus litt. *Esch.*
nocturnus *Esch.*
impressicollis *Mann.*
abbreviatus *Lec.*
Elater abbr. *Say.*
Cr. silaceipes *Germ.*
lacustris *Lec.*
fallax *Mann.*
vestitus *Mann.* —
limbatus *Mann.*
bicolor *Germ.*
Hypolithus bic. *Esch.*
Cr. picescens *Lec.*
scarificatus *Mann.*
lucidulus *Mann.*
restrictulus *Mann.* —
musculus *Mann.*
Elater musc. *Esch.*
tumescens *Lec.*
striatulus *Lec.*
guttatulus *Mels.*
choris *Lec.*
Elater ch. *Say.*
pulchellus *Dej.*
Elater pulch. *Linn.*
Cr. exiguus *Rand.* [tim.)
El. guttatulus *Mels.* (par-
ornatus *Lec.*
pectoralis *Lec.*
Elater pect. *Say.*
obliquatulus *Mels.*
inops *Lec.*
futilis *Lec.*

Oedostethus Lec.

femoralis *Lec.*

Blauta Lec.

cribraria *Cand.*
Elater cr. *Germ.*
Bl. cauta *Lec.*

Elater Linn.

rubricollis *Herbst.*
El. verticinus *Beauv.*
Ampedus rubr. *Germ.*
nigricollis *Herbst.*
Ampedus nigr. *Germ.*
semivittatus *Say.*
linteus *Say.*
Ampedus lugubris *Germ.*
discoideus *Fabr.*
Ampedus disc. *Germ.*
semicinctus *Randall.*
laesus *Lec.*
sayi *Lec.*
oblessus *Say.*
discoideus‖ *Say.*
militaris *Harris.*
vitiosus *Lec.*
dimidiatus *Lec.*
apicatus *Say.*
Amp. melanopygus *Germ.*
cordifer *Lec.*
lecontei *Candèze.*
phoenicopterus *Lec.*
Ampedus phoen. *Germ.*

xanthomus *Lec.*
Ampedus xanth. *Germ.*
El. humeralis *Mels.*
luctuosus *Lec.*
socer *Lec.*
impolitus *Mels.*
hepaticus *Mels.*
rhodopus *Lec.*
umbricolor *Motsch.*
manipularis *Cand.*
molestus *Lec.*
fuscatus *Mels.*
nigricans *Lec.*
Ampedus nigr. *Germ.*
El. testaceipes *Mels.*
pedalis *Cand.*
Ampedus ped. *Germ.*
El. ursulus *Mels.*
carbonicolor *Mann.*
nigrinus *Payk.*
lacustris *Lec.*
fusculus *Lec.*
deletus *Lec.*
pullus *Cand.*
Ampedus pull. *Germ.*
mixtus *Herbst.*
miniipennis *Lec.*
sanguinipennis *Say.*
Ampedus sang. *Germ.*
palans *Lec.*
collaris *Say.*
El. thoracicus‡ *Herbst.*
Ampedus coll. *Germ.*
rubricus *Say.*
Ampedus conc. *Germ.*
obliquus *Say.*
Amp. scitulus *Germ.*
var. El. areolatus *Say.*
pusio *Cand.*
Ampedus pus. *Germ.*
El. luteolus *Lec.*
protervus *Lec.*
?basalis *Randall.* —
?macilentus *Randall.* —
?nimbatus *Say.* —[1]

Drasterius Esch.

dorsalis *Lec.*
Elater dors. *Say.*
Monocrepidius dors. *Lec.*
Aeolus dors. *Cand.*
elegans *Lec.*
Elater elegans *Fabr.*
Aeolus elegans *Cand.*
El. circumscriptus *Germ.*
Mon. circumscriptus *Lec.*
rufulus. —
Aeolus ruf. *Cand.*
amabilis *Lec.*
Monocrepidius am. *Lec.*
simiolus *Cand.* —
comis *Cand.*
Monocrepidius com. *Lec.*
livens *Cand.*
Monocrepidius liv. *Lec.*

Megapenthes Cand.

granulosus *Cand.*
Ectinus gran. *Mels.*
El. sturmii‡ *Lec.*
turbulentus *Cand.*
Elater turb. *Lec.*
rufilabris *Cand.*
Elater ruf. *Germ.*
stigmosus *Cand.*
Elater stigm. *Lec.*
var. El. caprella *Lec.*
limbalis *Lec.*
Elater limb. *Herbst.*

Crepidotritus Lec.

cinereipennis *Lec.*
Cryptohypnus cin. *Mann.*
Anchastus recedens *Lec.*
Mon. hirsutulus *Motsch.*
Mon. piliferus *Motsch.*
puberulus *Lec.*
Cryptohypnus pub. *Mann.*
tantillus. —
Cardiophorus tant. *Mann.*
regularis (*Motsch.*) —

Brachycrepis Lec.

bicarinatus *Lec.*
?binus *Lec.*
Elater binus *Say.*

Anchastus Lec.

digitatus *Lec.*
rufus *Candéze.* —
signaticollis *Cand.* —
Ampedus sign. *Germ.*

Tricrepidius Motsch.

triangulicollis *Motsch.*

Monocrepidius Esch.

xysticus *Candéze.*
lividus *Dej.*
Elater lividus *Degeer.*
El. castanipes *Herbst.*
El. elongatus *Beauv.*
El. lobatus *Say.*
Monocr. lob. *Germ.*
aversus *Lec.*
suturalis *Lec.*
lepidus *Lec.*
?El. bisectus *Say.*
texanus *Candéze.*
vespertinus *Dej.*
Elater vesp. *Fabr.*
El. finitimus *Germ.*
Mon. serotinus *Germ.*
athoides *Lec.* n. sp.
sordidus *Lec.*
auritus *Germ.*
Elater aur. *Herbst.*
Oophor. crassicollis *Mels.*
bellus *Lec.*
Elater bell. *Say.*
Cryptohypnus bell. *Germ.*
blandulus *Lec.*

Dicrepidius Esch.

ramicornis *Germ.*
Elater ram. *Beauv.*
corvinus *Cand.*
palmatus *Cand.* —

Ischiodontus *Cand.*

ferreus *Cand.*
Dicrepidius ferr. *Lec.*
soleatus *Cand.*
Elater sol. *Say.*
Dicrepidius sol. *Lec.*
simplex *Cand.*
Dicrepidius simpl. *Lec.*
oblitus *Candéze.*
approximatus *Cand.*

Ludius Latr.

abruptus *Lec.*
Elater abr. *Say.*
Lud. coracinus *Germ.*
attenuatus *Lec.*
Elater att. *Say.*
tartareus *Lec.*
Elater tart. *Lec.* [*Motsch.*
Dolopiosomus aterrimus

Orthostethus Lac.

infuscatus *Lac.*
Aphanobius infusc. *Germ.*
Pristil. sordidus *Mels.*

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[1] The following species are irrecognizable: *Elater flavipes* Fabr.; *rufipes* Beauv.; *lepturus* Herbst.; *scutellum* Herbst; *erythropus* Say.

Crigmus Lec.

hepaticus *Lec.*
  Elater hep. *Germ.*
  Aphanobius hep. *Germ.*
texanus *Lec.*

Agriotes Esch.

mancus *Lec.*
  Elater manc. *Say.*
  El. (Agr.) obesus‡ *Harris.*
  Agr. truncatus *Mels.*
  Agr. striatulus *Mels.*
pubescens *Mels.*
fucosus *Lec.*
  var. collaris *Lec.*
ferrugineipennis *Lec.*
sordidus *Lec.*
stabilis *Lec.*
limosus *Lec.*
avulsus *Lec.*
opaculus *Lec.*
oblongicollis *Lec.*
  Dolopius obl. *Mels.*
  var. Dol. isabellinus *Mels.*

Dolopius Esch.

macer *Lec.*
pauper *Lec.*
subustus *Lec.*
sericatus *Motsch.*
californicus *Mann.* —
  lateralis *Esch.*
sellatus *Mann.* —
simplex *Motsch.* —

Betarmon Kraatz.

bigeminatus *Lec.*
  Elater big. *Randall.*
  Dolopius big. *Lec.*

Adrastus Esch.

recticollis *Lec.*
  Elater rect. *Say.*
  Adr. pumilus *Er.*
testaceus *Mels.*
quietus. —
  Elater qu. *Say.*
inquinatus. —
  Elater inq. *Say.*

Melanotus Esch.[1]

corticinus *Lac.*
  Elater cort. *Say.*
  Cratonychus cort. *Lec.*
longulus (*Lec.*)
macer (*Lec.*)
cuneatus (*Lec.*)
incertus (*Lec.*)
decumanus (*Er.*)
canadensis *Cand.* —
despectus *Cand.* —
clandestinus (*Er.*)
secretus (*Lec.*)
ignobilis (*Mels.*)
depressus *Lac.*
  Ctenonychus depr. *Mels.*
  Cratonychus depr. *Lec.*
angustatus (*Er.*)
  Ctenonych. testaceus *Mels.*
trapezoideus (*Lec.*)
tænicollis (*Lec.*)
leonardi (*Lec.*)
scrobicollis (*Lec.*)
texanus *Cand.* —
castanipes *Kiesenw.*
  Elater cast. *Payk.*
  Perimecus fulvipes *Kirby.*
  Cr. inaequalis *Lec.*
glandicolor *Mels.*
fissilis *Lac.*
  El. cinereus‡ (fiss.) *Say.*
  El. (Mel.) cinereus‡ *Harr.*
  Crat. laticollis *Er.*
  ?El. brevicollis *Herbst.*
  Crat. ochraceipennis *Mels.*
  Crat. sphenoidalis *Mels.*
communis *Harris.*
  Elater comm. *Gyll.*
  Perimecus comm. *Kirby.*
  Crat. communis *Er.*
  Elater cinereus *Weber.*
  Cr. spadix *Er.*
exuberans (*Lec.*)
parumpunctatus (*Mels.*)
effetus *Cand.* —
verberans (*Lec.*)
emissus (*Lec.*)
infaustus (*Lec.*)
cribulosus (*Lec.*)
cribricollis *Cand.* —
paganus *Cand.* —
pertinax *Lac.*
  Elater pert. *Say.*
  Cratonychus pert. *Lec.*
dubius (*Lec.*)
tenax *Lac.*
  Elater tenax *Say.*
  Cratonychus ten. *Lec.*
americanus *Lac.*
  Elater am. *Herbst.*
  Cratonychus am. *Er.*
insipiens *Lac.*
  Elater ins. *Say.*
  Cratonychus ins. *Lec.*
tenellus (*Er.*)
variolatus *Lec.*
oregonensis (*Lec.*)
morosus *Cand.*
  Craton. longulus‖ *Lec.*[2]
sagittarius (*Lec.*)
paradoxus *Mels.*
  an rite Am. *Bor?*
abdominalis (*Er.*) —
vetulus (*Er.*) —
similis. —
  Perimecus sim. *Kirby.*

Limonius Esch.

auripilis *Lec.*
  Elater aur. *Say.*
pubicollis *Lec.*
fulvipilis *Cand.*
mirus *Lec.*
discoideus *Lec.*
aurifer *Lec.*
stigma *Dej.*
  Elater st. *Herbst.*
  El. armus *Say.*
  Gambrinus arm. *Lec.*
griseus *Cand.*
  Elater gr. *Beauv.*
  El. cylindriformis‡ *Say.*
  Lim. hirticollis *Mels.*
confusus *Lec.*
plebejus *Lec.*
  Elater pleb. *Lec.*
  Lim. metallescens *Mels.*
aenescens *Lec.*
occidentalis *Cand.*
  infuscatus *Motsch.*
aeger *Lec.*
quercinus *Dej.*
  Elater qu. *Say.*
ornatulus *Lec.*
humeralis *Cand.* —
basillaris *Lec.*
  Elater bas. *Say.*
semiaeneus *Lec.*
subauratus *Lec.*
pilosus *Lec.*
clypeatus *Motsch.* —
mandibularis *Motsch.* —
subcostatus *Motsch.* —
californicus *Cand.*
  Cardiophorus cal. *Mann.*
  Lim. hispidus *Lec.*

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[1] The authorities in parenthesis have described the species under the more recent generic name of *Cratonychus*. They have all been referred to *Melanotus* by Lacordaire.
[2] Tr. Am. Phil. Soc., x. 480.

angulatus *Motsch.* —
canus *Lec.*
propexus *Cand.*
anceps *Lec.*
ectypus *Lec*
Elater ectypus *Say.*
agonus *Lec.*
Elater ag. *Say.*
ornatipennis *Lec.* n. sp.
definitus *Ziegler.*
infernus *Lec.*
maculicollis *Motsch.* —

Campylus Fischer.

productus *Randall.*
denticornis *Kirby.*
flavinasus *Mels.*
fulvus *Motsch.* —
varians *Mann.* —

Pityobius Lec.

anguinus *Lec.*
murrayi *Lec.*

Athous Esch.

brightwelli *Cand.*
Pedetes bright. *Kirby.*
Ath. oblongicollis *Mels.*
Ath. arcticollis *Mels.*
acanthus *Cand.*
Elater ac. *Say.*
Pedetes ac. *Lec.*
opilinus *Cand.*
maculicollis *Lec.* n. sp.
cucullatus *Cand.*
El. cucull. *Say.*
Ath. hypoleucus *Mels.*
Ath. procericollis *Mels.*
Ath. strigatus *Mels.*
ferruginosus *Esch.*
excavatus. —
Pedetes exc. *Motsch.*
fossularis *Cand.*
Pedetes foss. *Lec.*
nigripilis *Motsch.*
scapularis *Cand.*
Elater sc. *Say.*
Pedetes sc. *Lec.*
equestris *Cand.*
Pedetes eq. *Lec.*
rufiventris *Mann.* —
Elater ruf. *Esch.*
posticus *Mels.*
rufifrons *Lec.*
Elater ruf. *Randall.*
reflexus *Lec.*
scissus *Lec.*
vittiger *Lec.*
triundulatus *Mann.* —
discalceatus *Lec.*
El. disc. *Say.*
bicolor *Lec.*[1]

Bladus Lec.

quadricollis *Lec.*
Eucnemis quadr. *Say.*

Oestodes Lec.

tenuicollis *Lec.*
Elater ten. *Randall.*
graciliformis *Lec.*
Elater grac. *Randall.*

Eanus Lec.

vagus *Lec.*
Limonius vagus *Lec.*
estriatus *Lec.*
Limonius estr. *Lec.*
maculipennis *Lec.* n. sp.

Nothodes Lec.

dubitans *Lec.*
Limonius dub. *Lec.*

Sericosomus Esch.

§ ATRACTOPTERUS *Lec.*

fusiformis *Lec.*
?El. honestus *Randall.*
incongruus *Lec.*
viridanus *Lec.*
Elater virid. *Say.*
El. sublucens *Randall.*
silaceus *Lec.*
Elater sil. *Say.*
♂ Atr. umbraticus *Lec.*
debilis *Lec.*
flavipennis *Lec.*
Dolerosomus flav. *Motsch.*
humeralis (*Motsch.*) —

Oxygonus Lec.

obesus *Lec.*
Elater ob. *Say.*
El. acutipennis *Randall.*
Diacanthus acut. *Germ.*
Corymbites acut. *Lec.*

Corymbites Latr.

hamatus *Lec.*
Elater ham. *Say.*
medianus *Lec.*
Diacanthus med. *Germ.*
Cor. rubidipennis *Lec.*
propola *Lec.*
triundulatus *Lec.*
Elater triund. *Randall.*
furcifer *Lec.*
hieroglyphicus *Lec.*
Elater hier. *Say.*
nubilus *Lec.*
serricornis. —
Diacanthus serr. *Mann.*
ochreipennis *Lec.* n. sp.
confluens *Lec.*
Elater confl. *Gebler.*
Diacanthus confl. *Mann.*
sericeus *Lec.*
Elater ser. *Fischer.*
Ludius ser. *Esch.*
Diacanthus ser. *Germ.*
bombycinus *Lec.*
Diacanthus bomb. *Germ.*
Cor. semiluteus *Lec.*
fallax *Lec.*
Elater fall. *Say.*
fusculus *Lec.*
Prost. angustulus‖ *Motsch.*
oblongoguttatus. —
Prosternon obl. *Motsch.*
nitidulus *Lec.*
?Diac. submetallicus *Germ.*
aratus *Lec.*
splendens *Ziegler.*
?Diac. corporosus *Germ.*
tinctus *Lec.*
an seq. gens?
aeripennis *Lec.*
El. (Aphotistus) aer. *Kirby.*
El. appropinquans *Rand.*
suckleyi *Lec.*
carbo *Lec.*
lateralis *Lec.*
conjungens *Lec.*
pulcher *Lec.*
festivus *Lec.*
appressus *Lec.*
Elater appr. *Randall.*
decoratus. —
Diacanthus dec. *Mann.*
parvicollis. —
Diacanthus parv. *Mann.*
glaucus *Lec.*
Diacanthus gl. *Germ.*
Hadr. simillimus *Motsch.*
inflatus *Lec.*
Elater infl. *Say.*
Diacanthus infl. *Germ.*
crassus *Lec.*

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[1] *Athous trivittatus* Mels. is the European *A. vittatus.*

divaricatus *Lec.*
rotundicollis *Lec.*
Elater rot. *Say.*
var. Diac. russicollis *Germ.*
sticticus. —
Diacanthus stict. *Germ.*
leucaspis. —
Diacanthus leuc. *Germ.*
sulcicollis *Lec.*
El. parallelus‖ *Say.*
Elater sulc. *Say.*
aerarius *Lec.*
Elater aer. *Randall.*
El. (Diac.) racinei *Chevr.*
resplendens *Esch.*
gracilior *Lec.*
nubilipennis‖ *Lec.*
furtivus *Lec.*
atropurpureus *Mels.* —
cylindriformis *Germ.*
Elater cylind. *Herbst.*
El. appressifrons *Say.*
♀ El. brevicornis *Say.*
C. parallelopipedus *Germ.*
obscurus *Lec.*
cribrosus *Lec.*
Pristilophus subcanaliculatus *Motsch.*
morulus *Lec.* n. sp.
signaticollis *Lec.*
Diacanthus? sign. *Mels.*
trivittatus *Lec.*
colossus *Lec.* [*Motsch.*
♂ Lud. serraticornis
aethiops *Lec.*
Elater aeth. *Herbst.*
Pristilophus aeth. *Germ.*
maurus *Lec.*
vernalis *Germ.*
Elater vern. *Hentz.*
kendalli *Germ.*
Ctenicerus kend. *Kirby.*
El. anchorago *Randall.*
cuprascens *Lec.*
viridis *Lec.*
Elater viridis *Say.*
Cor. micans *Germ.*
anthrax *Lec.*
vulneratus *Lec.* n. sp.
tarsalis *Lec.*
Athous tars. *Mels.*
caricinus *Esch.*
telum *Lec.*
lobatus *Esch.*
volitans *Esch.*
spinosus *Lec.*
spectabilis *Mann.* —
umbricola *Esch.*
rudis *Motsch.*
rupestris *Germ.* —

angusticollis *Mann.*
pyrrhos *Lec.*
Elater pyrrh. *Herbst.*
♀ Athous pyrrhicus *Hald.*
Ath. vagrans *Mels.*
Ath. aequalis *Mels.*
bivittatus *Lec.*
Campylus biv. *Mels.*
jaculus *Lec.*
protractus *Lec.*
rufipes *Motsch.* —
fulvipes *Bland.*
sagitticollis *Lec.*
Pristilophus sag. *Esch.*
insidiosus *Lec.*
falsificus *Lec.*
mendax *Lec.*
angularis *Lec.*
diversicolor. —
Ludius div. *Esch.*
Diacanthus div. *Mann.*

Asaphes Kirby.

hemipodus *Lec.*
Elater hem. *Say.*
carbonatus *Lec.*
morio *Lec.*
dilaticollis *Motsch.* —
memnonius *Lec.*
Elater memn. *Herbst.*
Pedetes ruficornis *Kirby.*
baridius *Lec.*
Elater bar. *Say.* [*Germ.*
Hemicrepidius thomasi
aereus *Lec.*
♀ Athous aer. *Mels.*
♂ Ath. aeneolus *Mels.*
decoloratus *Lec.*
Elater dec. *Say.*
tumescens *Lec.*
indistinctus *Lec.*
oregonus *Lec.*
melanopthalmus *Lec.*
Athous mel. *Mels.*
tener *Lec.*
an praec. ♂?
consentaneus *Lec.*
an seq. ♂?
bilobatus *Lec.*
Elater bil. *Say.*
planatus *Lec.*
cavifrons *Lec.*
Athous cav. *Mels.*

Pyrophorus Ill.

physoderus *Germ.*

Melanactes Lec.

procerus *Lec.*
piceus *Lec.*
Elater piceus *De Geer.*
El. laevigatus *Fabr*
El. morio *Say.* (var.)
Pristilophus laev. *Germ.*
Prist. femoralis *Mels.*
densus *Lec.*
morio *Lec.*
Elater morio *Fabr.*
El. lacunosus *Fabr.*
Pristilophus morio *Germ.*
puncticollis *Lec.*
Pristilophus punct. *Lec.*
consors *Lec.*
reichei *Lec.*
Pristilophus reichei *Germ.*

PLASTOCERINI.

Aphricus Lec.

californicus *Lec.*

Aplastus Lec.

speratus *Lec.*
optatus *Lec.*

Plastocerus Lec.

schaumii *Lec.*
frater *Lec.*

Euthysanius Lec.

lautus *Lec.*
pretiosus *Lec.* n. sp.

CEBRIONIDAE.

Anachilus Lec.

mandibularis *Lec.* n. sp.

Cebrio Fabr.

bicolor *Fabr.*
Seledonon bic. *Latr.*
simplex *Lec.*
confusus *Lec.*

Scaptolenus Lec.

femoralis *Lec.*
Cebrio fem. *Chevr.*

RHIPICERIDAE.[1]

ZENOINI.

Zenoa Say.

picea *Lec.*
Melasis pic. *Beauv.*
Z. brunnea *Say.*
var. Z. vulnerata *Lec.*

RHIPICERINI.

Sandalus Knoch.

niger *Knoch.* (♀).
knochii *Guér.* (♂ ♀).
rubidus *Mels.* (♂).
californicus *Lec.*
petrophya *Knoch.*
Rhipic. fulva *Lap.*
R. proserpina *Newm.*
var. brevicollis *Mels.*
scabricollis *Hald.*

SCHIZOPODIDAE.

Schizopus Lec.

laetus *Lec.*

DASCYLLIDAE.

DASCYLLIDAE (genuini).

MACROPOGONINI.

Macropogon Motsch.

piceus *Lec.*

Eurypogon Motsch.

niger *Motsch.*
Ochina nigra *Mels.*
Sclerodes harrisii *Westw.*

DASCYLLINI.

Stenocolus Lec.

scutellaris *Lec.*

Anchytarsus Guér.

ater *Guér.*
Elodes debilis *Ziegler.*
Atopa bicolor *Mels.*

Odontonyx Guér.

trivittis *Schaum.*
Dasytes triv. *Germ.*
Od. ornata *Guér.*

Dascyllus Latr.[2]

melanophthalmus *Guér.*—
davidsonii *Lec.*

Anorus Lec.

piceus *Lec.*

CYPHONIDAE.

EUBRIINI.

Ectopria Lec.

thoracica *Lec.*
Eubria thorac. *Ziegler.*
nervosa *Lec.*
Eubria nerv. *Mels.* (♀).
Eurea nerv. *Lec.* (♀).
Ect. tibialis *Lec.* (♂).
tarsalis *Lec.*
an praec. var.?

CYPHONINI.[3]

Cyphon Fabr.

pallipes *Lec.*
fusciceps *Kirby.*
piceus *Lec.*
punctatus *Lec.*
nebulosus *Lec.*
modestus *Lec.*
pusillus *Lec.*
obscurus (*Guér.*)—
collaris *Lec.*
Helodes coll. *Guér.*
bicolor *Lec.*
concinnus *Lec.*[4]
Helodes conc. *Lec.*

§ HEMICYPHON Lec.

ruficollis *Lec.*
Lampyris ruf. *Say.*
Elodes fragilis *Ziegler.*
var. E. marginicollis *Guér*
var. E. oblonga *Guér.*

Prionocyphon Redt.

discoideus *Lec.*
Cyphon disc. *Say.*
Elodes disc. *Guér.*
limbatus *Lec.* n. sp.

Helodes Latr.

apicalis *Lec.* n. sp.

§ SACODES Lec.

pulchella *Guér.*
fuscipennis *Guér.*
Nycteus? thoracicus *Mels.*
thoracica *Guér.*

§ MICROCARA Thomson.

explanata *Lec.* n. sp.
? **brevicollis** *Lec.* n. sp.

Scirtes Illiger.

tibialis *Guér.*
solstitialis *Mels.*
californicus *Motsch.*—
orbiculatus *Guér.*
Cyphon orb. *Fabr.*
Altica centralis *Say.*
S. suturalis‖ *Ziegl.*
S. lateralis *Lec.*
var. S. suturalis *Guérin.*

EUCINETINI.

Eucinetus Germar.

oviformis *Lec.* n. sp.
infumatus *Lec.*
terminalis *Lec.*
morio *Lec.*
testaceus *Lec.* n. sp.

PTILODACTYLINI.

Ptilodactyla Latr.

serricollis *Lec.*
Ptilinus serri. *Say.*
Atopa fusca *Mels.*
elaterina *Guér.*

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[1] The genus *Boscia* Leach (Zool. Journ. I, 36), is not recognizable, nor can any of the five species, *picea*, *punctata*, *olivacea*, *glabra*, *minuta* be identified.

[2] *Dascillus* err. cler.

[3] *Helodini* Lec.,

[4] The European species *C. variabilis*, and *C. coarctata* are mentioned by Guérin as occurring in North America, but I have not identified either of them.

December, 1865.

LAMPYRIDAE.

LAMPYRIDAE (genuini).

LYCINI.

Lycus Fabr.

cruentus *Lec.*
lateralis *Lec.*
Lygistopterus lat. *Mels.*

Dictyoptera Latr.

perfaceta *Lec.*
Lycus perf. *Say.*
D. substriata *Lec.*

Calopteron Guér.

typicum *Lec.*
Digrapha typic. *Newm.*
var. D. discrepans *Newm.*
var. D. affinis *Lec.*
? var. D. apicalis *Lec.*[1]
reticulatum.
Lycus ret. *Fabr.*
Digrapha ret. *Newm.*
var. D. dorsalis *Newm.*
D. duplicata *Hald.*
var. D. terminalis *Say.*
megalopteron *Lec.*

Caenia Newm.

dimidiata *Lec.*
Lycus dim. *Fabr.*
C. scapularis *Newm.*
basalis *Lac.*
Celetes marginella *Newm.*
Cel. basalis *Lec.*
Cel. mystacina *Lec.*
Cel. tabida *Lec.*
sanguinipennis *Lec.*
Lycus sang. *Say.*

Eros Newm.

hamatus *Lac.*
Dictyopterus ham. *Mann.*
simplicipes *Lac.*
Dictyopterus simpl. *Mann.*
coccinatus *Lec.*
Lycus cocc. *Say.*
mundus *Lec.*
Lycus mundus *Say.*
thoracicus *Lec.*
Omalisus thor. *Randall.*
sculptilis *Lec.*
Lycus sculpt. *Say.*
oblitus *Newman.*
incestus *Lec.* (♂).
crenatus *Lec.*
Omalisus cren. *Germ.*
O. cruciatus *Randall.*
E. alatus *Newm.*
fraternus (*Randall*).—
humeralis *Newm.*
Lycus hum. *Fabr.*
Omalisus obliquus *Say.*
trilineatus *Lec.*
Dictyopterus tril. *Mels.*
modestus *Lec.*
Lycus mod. *Say.*
Eros timidus *Lec.* (♂).
E. aeger *Lec.* (♀).
Dict. minutus‖ *Lec.*
var. E. socius *Lec.*
mollis *Lec.*
var. lascivus *Lec.*
var. D. nanus *Mels.*
var. vilis *Lec.*
floralis *Lec.*
Dictyopterus fl. *Mels.*
sollicitus *Lec.*
canaliculatus *Lec.*
Lycus can. *Say.*
? E. alatus *Newm.*[2]

LAMPYRINI.

Pleotomus Lec.

pallens *Lec.* **n. sp.**

Calyptocephalus Gray.

bifarius *Motsch.*
Lampyris bif. *Say.*
Pollaclasis ovata *Newm.*
Pol. bifaria *Lec.*

Lucidota Lap.

atra *Lac.*
Lampyris atra *Fabr.*
L. laticornis *Fabr.*
Photinus (Luc.) lat. *Lap.*
Lucernuta atra *Lec.*
Lychnuris atra *Motsch.*
Lychn. morio *Mels.*
tarda *Lac.*
Lucernuta tarda *Lec.*
punctata *Lac.*
Lucernuta punct. *Lec.*

Photinus Lap. (emend. Lac.)

§ ELLYCHNIA Lec.

facula *Lec.*
? Ell. lateralis *Motsch.*
californicus *Lac.*
Ellychnia cal. *Motsch.*
corruscus *Lac.*
Lampyris corr. *Linn.*
Ell. latipennis *Motsch.*
autumnalis (*Mels.*) *Lac.*
Ell. corrusca‡ *Motsch.*
an praec. gens?
lacustris (*Lec.*) *Lac.*

§ PYROPYGA Motsch.

fenestralis *Lec.*
Pyractomena fenestr. *Mels.*
nigricans *Lac.*
Lampyris nigr. *Say.*
? L. obscura *Fabr.*
decipiens *Lac.*
Lampyris dec. *Harris.*
Ell. neglecta *Lec.*
minuta *Lac.*
Ellychnia min. *Lec.*
californicus *Lac.*—
Pyropyga cal. *Motsch.*

§ PYRECTOMENA Lec.

angulatus *Lac.*
Lampyris ang. *Say.*
Pyrectomena ang. *Lec.*
borealis *Lac.*
Lampyris bor. *Randall.*
Pyrectomena bor. *Lec.*
angustatus (*Lec.*) *Lac.*
lucifer *Lac.*
Lampyris luc. *Mels.!*
Pyr. linearis *Lec.*

(§ PYRECTOSOMA Motsch.)

consanguineus *Lec.*
vittiger *Lec.*
ardens *Lec.*
var. obscurellus *Lec.*
lineellus *Lec.*

(§ ELLIPOLAMPIS Motsch.)

pyralis *Lap.*
Lampyris pyr. *Linn.*
Lamp. centrata *Say.*
Lamp. rosata *Germ.*
Pyrectosoma versicolor‡ *Motsch.*
marginellus *Lec.*
? Ellip. pyralis‡ *Motsch.*
var. P. castus *Lec.*

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[1] *Digrapha divisa* Newm. (Ent. Mag. 5, 381), from some clerical error in the description is irrecognizable, but is probably the same as *D. apicalis* Lec.

[2] *Lycus marginellus* Fabr. is not recognizable, neither are *Eros praefectus* and *lictor* Newman.

§ Gynaptera Lec.[1]

scintillans *Lec.*
Lampyris scint. *Say.*
Macrolampis scint. *Motsch.*
punctulatus *Lec.*[2]

Phausis Lec.

reticulata *Lec.*
Lampyris retic. *Say.*

Microphotus Lec.

dilatatus *Lec.* n. sp.

Photuris Lec.

pennsylvanica *Lec.*
Lampyris pens. *De Geer.*
Lamp. versicolor *Fabr.*
Photinus pens. *Lap.*
frontalis *Lec.*
divisa *Lec.*
var. congener *Lec.*

PHENGODINI.[3]

Phengodes Hoffm.

plumosa *Hoffm.* (♂).
Lamyris plum. *Oliv.*
Ph. testaceus *Leach.*
fusciceps *Lec.*

Pterotus Lec.

obscuripennis *Lec.* (♂).

TELEPHORIDAE.

CHAULIOGNATHINI.

Chauliognathus Hentz.

pensylvanicus *Lec.*
Telephorus pens. *De Geer.*
Canth. americana *Forster.*
Canth. bimaculata *Fabr.*
Chaul. bimaculatus *Hentz.*
profundus *Lec.*
opacus *Lec.* n. sp.
limbicollis *Lec.*
basalis *Lec.*
scutellaris *Lec.*
discus *Lec.*
marginatus *Hentz.*
Cantharis marg. *Fabr.*
var. Chaul. hentzii *Lec.*
var. Canth. ligata *Say.*

TELEPHORINI.

Omethes Lec.

marginatus *Lec.* n. sp.

Podabrus Westw.
(emend. Lec.)

§ Brachynotus Kirby.

tricostatus *Lec.*
Cantharis tric. *Say.*
Teleph. bennettii *Kirby.*
? Malth. parvicollis *Motsch.*
M. atripes *Motsch.*
basilaris *Lec.*
Cantharis bas. *Say.*
flavicollis *Lec.*
discoideus *Lec.*
punctulatus *Lec.*
modestus *Lec.*
Cantharis mod. *Say.*
diadema *Lec.*
Cantharis diad. *Fabr.*
frater *Lec.*
Malth. quadricollis *Motsch.*
latimanus *Lec.*
Malthacus lat. *Motsch.*
P. mellifluus *Lec.*
gradatus *Lec.*
comes *Lec.*
torquatus *Lec.*
pruinosus *Lec.*
tomentosus *Lec.*
Cantharis tom. *Say.*
Pod. rufiolus *Mels.*
rugosulus *Lec.*
poricollis *Lec.*
puncticollis|| *Lec.*
brunnicollis *Lec.*
fayi *Lec.* n. sp.
protensus *Lec.* n. sp.

§ Malthacus Kirby.

scaber *Lec.*
macer *Lec.*
piniphilus *Lac.*
Rhagonychus pin. *Esch.*
R. puberulus *Lec.*
Dichelotarsus pin. *Motsch.*
cinctipennis *Lec.* n. sp.
punctatus *Lec.*
Tel. (M.) punct. *Kirby.*
puncticollis *Lec.*
Tel. (M.) punct. *Kirby.*
P. marginellus *Lec.*
corneus *Lec.*
cavicollis *Lec.*
tejonicus *Lec.*
laevicollis *Lec.*
Tel. (M.) laev. *Kirby.*
sericata.—
Rhagonycha ser. *Mann.*
an laevicollis?
simplex *Couper.*
mandibularis (*Kirby*).—

Telephorus Schäffer.

§ Ancistronycha Märk.

dentiger *Lec.*
excavatus *Lec.*
vilis *Lec.*

§ Rhagonycha Esch.

carolinus *Lec.*
Cantharis car. *Fabr.*
Rhagonycha car. *Motsch.*
C. jactata *Say.* (immat.)
angulatus *Lec.*
Cantharis ang. *Say.*
lineola *Lec.*
Cantharis lin. *Fabr.*
C. parallela *Say.*
var. T. sayi *Lec.*
rectus *Mels.*
? C. rufipes *Say.*
imbecillis *Lec.*
cruralis *Lec.*
flavipes *Lec.*
dichrous *Lec.*
luteicollis *Germ.*
cinctellus *Lec.*
scitulus *Lec.*
Cantharis sc. *Say.*
nigriceps *Lec.*
longulus *Lec.*
pusillus *Lec.*
fraxini *Lec.*
Cantharis fr. *Say.*
T. ater (*Linn.*) *Kirby.*
T. nigrita *Lec.*
Rh. binodula *Mann.*

§ Telephorus Kraatz.

tibialis *Lec.*
consors *Lec.*

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[1] In the section *Gynaptera* the females are apterous, but have short elytra as in the European *Lamprohiza.*

[2] *Luciola maculicollis* Lap. is probably not a North American species.

[3] It is quite possible that this tribe should be united with *Drilini.*

rotundicollis *Lec.*
Cantharis rot. *Say.*
westwoodii *Kirby.*—
samouelli *Kirby.*—
curtisii *Kirby.*
grandicollis *Lec.*
? Oripa rubricollis *Motsch.*
transmarinus.—
Oripa transm. *Motsch.*
fidelis *Lec.*
scopus *Lec.* **n. sp.**
tuberculatus *Lec.*
T. impressus *Lec.*
Silis? brevicollis *Lec.*
marginellus *Lec.*
oregonus *Lec.* **n. sp.**
collaris *Lec.*
bilineatus *Lec.*
Cantharis bil. *Say.*
peregrinus *Boh.*—

§ CYRTOMOPTERA Motsch.

divisus *Lec.*
Cyrt. latiuscula *Motsch.*

§ CYRTOMOPTILA Motsch.

notatus *Lec.*
Cantharis not. *Mann.*
T. larvalis *Lec.* (immat.)
lautus *Lec.*

§ POLEMIUS Lec.

laticornis *Lec.*
Cantharis lat. *Say.*
Telephorus dubius *Mels.*
incisus *Lec.*
limbatus *Lec.* (♂).
Teleph. repandus *Lec.* (♀)
planicollis *Lec.*
armiger *Couper.*[1]

Silis Charp.

pallida *Mann.*
pallens|| *Lec.*
lutea *Lec.*
percomis *Lec.*
Cantharis perc. *Say.*
S. longicornis *Lec.* (♂).
Telephorus curtus *Lec.* (♀).
difficilis *Lec.*

Ditemnus Lec.

bidentatus *Lec.*
Cantharis bid. *Say.*

Trypherus Lec.

latipennis *Lec.*
Malthinus lat. *Germ.*
Molorchus marginalis *Say.*
Malthinus marg. *Say.*
Lygerus lat. *Kiesenwetter.*

Loberus Kiesenw.

abdominalis *Lec.*

Tytthonyx Lec.

erythrocephalus *Lec.*
Lampyris erythr. *Fabr.*
Malth. serraticornis *Mels.*

Malthinus Latr.

occipitalis *Lec.*
var. difficilis *Lec.*

Malthodes Kiesenw.

concavus (*Lec.*)
transversus (*Lec.*)
fuliginosus *Lec.* **n. sp.**
exilis *Lec.*
Malthinus ex. *Mels.*
Malth. fulvicollis *Kiesenw.*
fragilis (*Lec.*)
niger (*Lec.*)
fusculus (*Lec.*)
laticollis *Lec.*
Malthod. transversus|| *Lec.*
parvulus (*Lec.*)
spado *Lec.* **n. sp.**

MALACHIDAE.

MALACHINI.

Collops Er.

bipunctatus *Er.*
Malachius bip. *Say.*
marginicollis *Lec.*
nigriceps *Er.*
Malachius nigr. *Say.*
eximius *Er.*
tricolor *Er.*
Malachius tric. *Say.*
punctatus *Lec.*
limbatus *Lec.* **n. sp.**
cribratus *Lec.*
cyanipennis *Motsch.* (♀).
balteatus *Lec.*
quadrimaculatus *Er.*
Malachius quadr. *Fabr.*
Cerocoma ruficollis *Fabr.*
Paussus ruf. *Fabr.*
histrio *Er.*
vittatus *Er.*
Malachius vitt. *Say.*
Megadeuterus haworthi *Westw.* (♂)
a. **confluens** *Lec.*
marginellus *Lec.*
insulatus *Lec.* **n. sp.**
punctulatus *Lec.*

Tanaops Lec.

abdominalis *Lec.*
longiceps *Lec.*
Malachius long. *Lec.*
apicalis.—
Cephalistes ap. *Motsch.*
unicolor.—
Cephalistes un. *Motsch.*

Hapalorhinus Lec.

mirandus *Lec.*
auritus *Lec.*
Malachius aur. *Lec.*

Malachius Fabr.

aeneus *Fabr.*

Anthocomus Er.

erichsonii *Lec.*
A. otiosus‡ *Er.*
A. lateralis *Lec.*
flavilabris *Lec.*
Malachius flav. *Say.*

Attalus Er.

§ SCALOPTERUS Motsch.

otiosus *Lec.*
Malachius ot. *Say.*
M. nigripennis *Say.*
Anth. atripennis *Er.*
flavifrons *Lec.*
Anthocomus fl. *Lec.*
pallifrons *Lec.*
Anthocomus pall. *Motsch.*
humeralis *Lec.* **n. sp.**
circumscriptus *Lec.*
Malachius circ. *Say.*
Anthocomus circ. *Er.*
cinctus *Lec.*
Anthocomus cinc. *Lec.*

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[1] I cannot identify *Cantharis vittata* Fabr. Ent. Syst. I, 219.

difficilis *Lec.*
Anthocomus diff. *Lec.*
lobulatus *Lec.*
Anthocomus lobatus‖ *Lec.*
terminalis *Lec.*
Anthocomus term. *Er.*
S. haemorrhoidalis *Motsch.*
scincetus *Lec.*
Malachius sc. *Say.*
Anthocomus sc. *Er.*
infuscatus (*Motsch.*)—
? an praec. var.
trimaculatus (*Motsch.*)—
rufomarginatus.—
Scalopterus ruf. *Motsch.*
granularis *Lec.*
Anthocomus gr. *Er.*
basalis *Lec.*
Anthocomus bas. *Lec.*
melanopterus (*Er.*)—
an Ebaeus bicolor ♀ ?
morulus *Lec.*
Ebaeus mor. *Lec.*

Acletus Lec.

nigrellus *Lec.*

Ebaeus Er.

apicalis *Er.*
Malachius apic. *Say.*
Mal. minutus *Mels.*
bicolor *Lec.*
pusillus *Lec.*
Malachius pus. *Say.*
oblitus *Lec.*
? submarginatus *Lec.*

Microlipus Lec.

laticeps *Lec.*
Malachius lat. *Lec.* (♂).

Charopus Er.

moerens *Lec.*
longicollis *Motsch.*
uniformis *Motsch.*—

Endeodes Lec.

basalis *Lec.*
Atelestus bas. *Lec.*
abdominalis *Lec.*
Atelestus abd. *Lec.*
collaris *Lec.*
Atelestus coll. *Lec.*

DASYTINI.

Pristoscelis Lec.

§ Byturosomus Motsch.

fuscus *Lec.*
Dasytes fusc. *Lec.*
B. griseus‡ *Motsch.*
B. rufipes *Motsch.*

§ Trichochrous Motsch.

ater *Bland* (atrus).
? T. cylindricus *Motsch.*
laticollis *Lec.*
Dasytes lat. *Mann.*
fulvitarsis *Bland.*
antennatus (*Motsch.*)
D. griseus‖ *Lec.*
brevicornis *Lec.*
californicus (*Motsch.*)—
cylindricus (*Motsch.*)—

§ Emmenotarsus Motsch.

brevipilosus *Lec.*
hirtellus *Lec.*
sordidus (*Lec.*)
suturalis (*Lec.*)
conformis (*Lec.*)
grandiceps *Lec.*
quadricollis (*Lec.*)
squalidus (*Lec.*)
aenescens (*Lec.*)
punctipennis *Lec.*
pedalis *Lec.*
texanus *Lec.*
rufipennis (*Lec.*)
? parvicollis (*Mann.*)—

§

serricollis *Lec.*

Listrus Motsch.

canescens *Motsch.*
Dasytes can. *Mannh.*
difficilis (*Lec.*)
rotundicollis *Motsch.*
Dasytes rot. *Lec.*
obscurellus (*Lec.*)
luteipes (*Lec.*)
punctatus *Motsch.*—
tibialis *Motsch.*—
senilis (*Lec.*)
erythropus (*Lec.*)
pusillus (*Lec.*)

Dolichosoma Stephens.

foveicollis *Lec.*
Dasytes fov. *Kirby.*
nigricornis *Lec.*
Pristoscelis nigr. *Bland.*

Eschatocrepis Lec.

constrictus (*Lec.*)
var. L. constricollis *Motsch.*

Allonyx Lec.

sculptilis (*Lec.*)
plumbeus *Lec.*

Dasytes Payk.

breviusculus *Motsch.*
hudsonicus *Lec.*

Melyris Fabr.

basalis *Lec.*
Dasytes bas. *Lec.*
cribratus *Lec.*
Dasytes cribr. *Lec.*

RHADALINI.

Rhadalus Lec.

testaceus *Lec.*

CLERIDAE.

CLERINI.

Elasmocerus Lec.

terminatus *Lec.*
Tillus term. *Say.*
T. (Macrotelus‖) t. *Klug.*
Monophylla‖ term. *Spin.*
M. megatoma *Spin.* (♂).

Tillus Fabr.

collaris *Spin.*—[1]

Perilypus Spin.

carbonarius *Spin.*—

Cymatodera Gray.

brunnea *Mels.*
cancellata *Lec.*

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[1] *T. pectinicornis* Klug is not an American but an Asiatic species.

morosa *Lec.*
? cylindricollis *Chevr.*
inornata *Lec.*
Priocera in. *Say.*
Tillus (C.) in. *Klug.*
bicolor *Lec.*
Tillus bic. *Say.*
undulata *Lec.*
Tillus und. *Say.*
C. longicollis *Spin.*
C bosci *Chevr.*
balteata *Lec.*
fascifera *Lec.* **n. sp.**
punctata *Lec.*
tenera *Lec.*
usta *Lec.*
fuscula *Lec.*
puncticollis *Bland.*
angustata *Spin.*
ovipennis *Lec.*
pilosella *Lec.* **n. sp.**
longicornis *Lec.*

Opilus Latr.

domesticus *Klug.*[1]
Notoxus mollis var. *Spin.*

Priocera Kirby.

castanea *Lec.*
Opilus cast. *Newm.*
P. rufescens *Spin.*
P. maculata *Ziegler.*

Trichodes Herbst.

ornatus *Say.*
douglasianus *White.*
hartwegianus *White.*
bifasciatus *Fabr.*[2]
tenellus *Lec.*
an T. ornati gens?
nuttalli *Klug.*
Clerus nutt. *Kirby.*
bibalteatus *Lec.*
apivorus *Germ.*
trifasciatus *Sturm.*

Clerus Geoffr. (emend. Kiesenw.)

THANASIMUS Latr. (emend. Duval.)

§ PSEUDOCLERUS Duval.

spinolae *Lec.*
quadrisignatus *Say.*
affiliatus *Lec.*
rufescens *Lec.*
laticinctus *Lec.*
analis *Lec.*
nigripes *Say.*
incertus *Lec.*
dubius‡ *Spin.*
nigripes‡ *Lec.*
vix a praecedente differt.
nigrifrons *Say.*
rosmarus *Say.*
oculatus *Spin.*
var. angustus *Lec.*
lunatus *Spin.*
bicolor *Mels.*
ichneumoneus *Fabr.*
rufus *Oliv.*
mexicanus *Laporte.*
abruptus *Lec.*
arachnodes *Klug.*—
crabronarius *Spin.*—
cordifer *Lec.*
eximius *Mann.*
holosericeus *White.*
nigriventris *Lec.*
sphegeus *Fabr.*
moestus *Klug.*
truncatus *Lec.*
viduus *Klug.*—
erythrogaster *Spin.*
thoracicus *Oliv.*
monilis *Mels.*
sexguttatus *Fabr.*—
quadriguttatus *Oliv.*—

§ THANASIMUS Spin.

trifasciatus *Say.*
dubius *Fabr.*
Th. ruficeps *Spin.*
undatulus *Say.*
nubilus *Klug.*
Th. abdominalis‖ *Kirby.*
vix a praec. differt.
rubriventris *Lec.*

§ THANEROCLERUS Spin.

sanguineus *Say.*
? **tantillus** *Lec.*

Cleronomus Klug.

COLYPHUS Spin.

signaticollis (*Spin.*)—
cinctipennis (*Spin.*)—
rufipennis (*Spin.*)—
interceptus (*Spin.*)—

Hydnocera Newman.

tricondylae *Lec.*
unifasciata *Lec.*
Clerus unif. *Say.*
Hydn. punctata *Spin.*
subfasciata *Lec.* **n. sp.**
subaenea *Spin.*
steniformis‡ *Spin.*
humeralis *Newm.*
Clerus hum. *Say.*
var. H. cyanescens *Lec.*
var. H. difficilis *Lec.*
rufipes *Newm.*—
pubescens *Lec.*
scabra *Lec.*
discoidea *Lec.*
pallipennis *Lec.*
Clerus pall. *Say.*
Hydn. serrata *Newm.*
suturalis *Spin.*
Clerus sut. *Klug.*
Hydn. limbata *Spin.*
bicolor *Lec.*
pedalis *Lec.* **n. sp.**
verticalis *Lec.*
Trichodes vert. *Say.*
Hydn. curtipennis *Newm.*
Clerus brachypterus *Klug.*
H lineaticollis *Spin.*
schusteri *Lec.* **n. sp.**
tabida *Lec.*
longicollis *Ziegler.*
aegra *Newm.*—

ENOPLIINI.

Phyllobaenus Spin.

dislocatus *Lec.*
Enoplium disl. *Say.*
E. distrophum *Klug.*
Ph. transversalis *Spin.*

Ichnea Lap.

laticornis *Lec.*
Enoplium lat. *Say.*

Tarsostenus Spin.

univittatus *Spin.*
Clerus univitt. *Rossi.*
Opilus albofasciatus *Mels.*
Tarsostenus alb. *Lec.*

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[1] Introduced into Canada.

[2] A variety of this species occurs in California, according to White, B. M. Cat. 31; but a variety of *T. ornatus* Say is more probably intended.

Chariessa Perty.

vestita *Spin.*
Brachymorphus vest. *Chev.*
Enoplium vest. *Klug.*
Corynetes spectabilis *Lap.*
dichroa *Lec.*
Enoplium dichr. *Lec.*
pilosa *Lec.*
Lampyris pil. *Forster.*
Enoplium pil. *Say.*
Pelonium pil. *Spin.*
α. **onusta.**
Enoplium on. *Say.*
E. marginatum‖ *Say.*

Cregya Lec.

vetusta *Lec.*
Pelonium vet. *Spin.*
Enopl. venustum *Hald.*
Prioc. albomaculata *Ziegl.*
fasciata *Lec.*
Enoplium fasc. *Lec.*

§

oculata *Lec.*
Clerus oc. *Say.*
Pelon. marginipenne *Spin.*
mixta *Lec.* n. sp.

Orthopleura Spin.

texana *Bland.*
damicornis *Spin.*
Tillus dam. *Fabr.*
Enopl. thoracicum *Say.*
E. punctatissimum *Chevr.*
E. bimaculatum *Mels.*

Enoplium Latr.

quadripunctatum *Say.*
quadrinotatum *Hald.*
scabripenne *Lec.* n. sp.

Lebasiella Spin.

janthina *Lec.* n. sp.
nigripennis *Lec.* n. sp.

Laricobius Rosenhauer.

rubidus *Lec.* n. sp.

Corynetes Herbst.

§ Necrobia Spin.

rufipes *Fabr.*
Dermestes ruf. *Fabr.*
Necrobia ruf. *Oliv.*
ruficollis *Fabr.*
Dermestes ruf. *Fabr.*
Necrobia ruf. *Oliv.*
violaceus *Herbst.*
Dermestes viol. *Linn.*
Necrobia viol. *Stephens.*
Necr. errans *Mels.*
marginellus *Chevr.*
an rite Am. Bor.?

§ Opetiopalpus Spin.

luridus (*Spin.*)—

LYMEXYLIDAE.

Lymexylon Fabr.

sericeum *Harris.*

Hylecoetus Latr.

lugubris *Say.*—
americanus *Harris.*—

CUPESIDAE.

Cupes Fabr.

capitata *Fabr.*
concolor *Westwood.*
cinerea *Say.*
trilineata *Mels.*
serrata *Lec.*

PTINIDAE.

PTINIDAE (genuini).

PTININI.

Gibbium Scopoli.

scotias *Scop.*
Ptinus scotias *Linn.*

Mezium Curtis.

americanum *Boieldieu.*
Gibbium amer. *Laporte.*

Trigonogenius Solier.

farctus *Lec.* n. sp.

Niptus Boieldieu.

ventriculus *Lec.*

Ptinus Linn.

fur *Linn.*
humeralis *Say.*
brunneus *Duftschmidt.*
frontalis *Mels.*
verticalis *Lec.*
quadrimaculatus *Mels.*
bimaculatus *Mels.*—
interruptus *Lec.*

EUCRADINI.

Eucrada Lec.

humeralis *Lec.*
Hedobia hum. *Mels.*

ANOBIIDAE.

ANOBIINI.

Ernobius Thoms.[1]

mollis *Thoms.*
Anobium molle *Fabr.*
An. convexifrons *Mels.*
Philoxylon conv. *Lec.*
Liozoum molle *Muls.*
punctulatus *Lec.*
Anobium punct. *Lec.*
alutaceus *Lec.*
Philoxylon al. *Lec.*
debilis *Lec.*
granulatus *Lec.*
marginicollis *Lec.*
Anobium marg. *Lec.*
tenuicornis *Lec.*

Ozognathus Lec.

cornutus *Lec.*
Anobium corn. *Lec.*
misellus *Lec.*

Xestobium Motsch.[2]

tesselatum *Motsch.*
Anobium tess. *Fabr.*
Cnecus tess. *Thoms.*

Oligomerus Redt.

sericans *Lec.*
Anobium ser. *Mels.*
obtusus *Lec.*
alternatus *Lec.*

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[1] *Philoxylon* Lec. *Liozoum* Muls.

[2] *Cnecus* Thoms.

Sitodrepa Thoms.[1]

- **panicea** *Thoms.*
  - Anobium pan. *Fabr.*
  - A. (Artobium) pan. *Muls.*

Ctenobium Lec.

- **antennatum** *Lec.*

Ptinodes Lec.

- **setifer** *Lec.*
  - Anobium set. *Lec.*

Trichodesma Lec.

- **gibbosum** *Lec.*
  - Anobium gibb. *Say.*

Nicobium Lec.

- **hirtum** *Lec.*
  - Anobium hirt. *Ill.*
  - A. (Neobium) hirt. *Muls.*

Hadrobregmus Thoms.[2]

§ Cacotemnus Lec.

- **errans** *Lec.*
  - Anobium err. *Mels.*
  - Cacotemnus err. *Lec.*
- **carinatus** *Lec.*
  - Anobium car. *Say.*
- **linearis** *Lec.*

§

- **pumilio** *Lec.*
- **gibbicollis** *Lec.*
  - Anobium gibb. *Lec.*
  - Hemicoelus gibb. *Lec*

§

- **foveatus** *Lec.*
  - Anobium fov. *Kirby.*
  - Hemicoelus fov. *Lec.*

Anobium Fabr. (emend. Thomson.)

- **notatum** *Say.*
- **quadrulum** *Lec.*

Trypopitys Redt.

- **sericeus** *Lec.*
  - Xyletinus ser. *Say.*
- **punctatus** *Lec.*

Petalium Lec.

- **bistriatum** *Lec.*
  - Anobium bistr. *Say.*

Theca Muls.

- **profunda** *Lec*

Eupactus Lec.

- **nitidus** *Lec.*
- **punctulatus** *Lec.*
- **pudicus** *Lec.*
  - ? Anobium pud. *Boh.*

Xyletinus Latr.

- **peltatus** *Lec.*
  - Anobium pelt. *Harris.*
- **pallidus** *Lec.*
- **mucoreus** *Lec.*
- **fucatus** *Lec.*
- **puberulus** *Boh.*—

Lasioderma Steph.

- **serricorne** *Lec.*
  - Ptinus serr. *Fabr.*
  - Pseudochina serr. *Muls.*
  - Ptilinus testaceus *Duftsch.*
  - Xyletinus test. *Sturm.*
  - Lasioderma test. *Steph.*
  - X. pallidus *Lap.*
- **dermestinum** *Lec.*

Catorama Guér.

- ? **simplex** *Lec.*

Hemiptychus Lec.

- **punctatus** *Lec.*
- **gravis** *Lec.*
  - Dorcatoma grave *Lec.*
- **pusillus** *Lec.*
  - Dorcatoma pus. *Lec.*
- **borealis** *Lec.*
- **ventralis** *Lec.*
- **obsoletus** *Lec.*
- **nigritulus** *Lec*

Protheca Lec.

- **puberula** *Lec.*
- **hispida** *Lec.*

Dorcatoma Herbst.

- **setulosum** *Lec.*
- **incomptum** *Lec.*

Caenocara Thoms.[3]

- **oculata** *Lec.*
  - Dorcatoma oc. *Say.* (♂).
  - D. simile *Say.* (♀).
  - Tylistus sim. *Lec.*
- **scymnoides** *Lec.*
- **bicolor**.—
  - Dorcatoma bic. *Germ.*

PTILININI.

Ptilinus Geoffr.

- **ruficornis** *Say.*
  - Pt. bicolor *Mels.*
- **basalis** *Lec.*
- **thoracicus** *Lec.*[4]
  - Tomicus thor. *Randall.*

BOSTRICHIDAE.

ENDECATOMINI.

Endecatomus Mellié.

- **reticulatus** *Mellié.*
  - Anobium ret. *Herbst.*
  - Dictyalotus ret. *Redt.*
- **rugosus** *Lec.*
  - Triphyllus rug. *Randall.*
  - End. dorsalis *Mellié.*

BOSTRICHINI.

Sinoxylon Duftsch.

- **asperum** *Lec.*
- **sericans** *Lec.*
- **4-spinosum** *Lec.* n. sp.
- **sextuberculatum** *Lec.*
- **basilare** *Lec.*
  - Apate bas. *Say.*
- **declive** *Lec.*

Bostrichus Geoffr. (emend. Guérin).

- **serricollis** *Lec.*
  - Apate serr. *Germ.*
  - Apate bicornis *Say.*
  - ? A. bicornis *Weber.*
- **armiger** *Lec.* n. sp.
- **truncaticollis** *Lec.* n. sp.

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[1] *Anobium* subg. *Artobium* Muls.

[2] *Cacotemnus* and *Hemicoelus* Lec.

[3] *Tylistus* Lec., *Enneatoma* Muls.

[4] *Ptilinus serricollis* Say, Journ. Ac. Nat. Sc. Phila. 3, 186, is a *Ptilodactyla.*

Amphicerus Lec.

bicaudatus *Lec.*
Apate bic. *Say.* (♂).
Ap. aspericollis *Germ.* (♀).
punctipennis *Lec.*
Bostrichus punct. *Lec.*
fortis *Lec.* n. sp.

Dinoderus Steph.

punctatus *Lec.*
Apate punct. *Say.*
substriatus *Steph.*
Apate substr. *Payk.*
porcatus *Lec.* n. sp.
cribratus *Lec.* n. sp.
densus *Lec.* n. sp.

Rhizopertha Steph.

pusilla *Steph.*
Sinodendron pus. *Fabr.*

PSOINI.

Polycaon Lap.

stoutii *Lac.*
Alloeocnemis st. *Lec.*
ovicollis *Lac.*
Exops ov. *Lec.*
exesus *Lec.*
pubescens *Lec.* n. sp.
punctatus *Lec.* n. sp.
confertus *Lec.* n. sp.

Acrepis Lec.

maculata *Lec.*—

LYCTIDAE.

Lyctus Fabr.

striatus *Mels.*
var. axillaris *Mels.*
opaculus *Lec.* n. sp.
cavicollis *Lec.* n. sp.
planicollis *Lec.*

Trogoxylon Lec.

parallelopipedum *Lec.*
Xylotrogus par. *Mels.*
punctatum *Lec.* n. sp.

SPHINDIDAE.

Sphindus Chevr.

americanus *Lec.* n. sp.

CIOIDAE.[1]

Cis Latr.

dichrous *Lec.*
creberrimus *Mellié.*
setulosus *Mellié.*
fuscipes *Mellié.*
americanus *Mannh.*
bicarinatus *Mannh.*
tridentatus *Mannh.*
ephippiatus *Mannh.*—
micans (fide *Kirby*).—
Anobium mic. *Fabr.*
chevrolatii *Mellié.*
atripennis *Mellié.*
dubius *Mellié.*
pumicatus *Mellié.*
minutissimus *Mellié.*
obesus *Mellié.*
punctatus *Mellié.*
tristis *Mellié.*
subtilis *Mellié.*

Ennearthron Mellié.[2]

vitulus *Lec.*
Cis vitulus *Mannh.*
mellyi *Mellié.*

Ceracis Mellié.

sallei *Mellié.*
militaris *Mellié.*

TENEBRIONIDAE.

TENTYRIIDAE.

EPIPHYSINI.

Edrotes Lec.

ventricosus *Lec.*
rotundus *Lec.*
Pimelia rot. *Say.*

TENTYRIINI.[3]

Triorophus Lec.

nodiceps *Lec.*
laeviceps *Lec.*
rugiceps *Lec.*
punctatus *Lec.*

Triphalus Lec.

perforatus *Lec.* n. sp.

Craniotus Lec.

pubescens *Lec.*—

Trimytis Lec.

pruinosa *Lec.*

Cryptadius Lec.

inflatus *Lec.*—

Eurymetopon Esch.

abnorme *Lec.*
rufipes *Esch.*
convexicolle *Lec.*
punctulatum *Lec.* n. sp.
ochraceum *Esch.*—

§

serratum *Lec.* n. sp.

Emmenastus Motsch.
(emend Lec.)

punctatus *Lec.* n. sp.
pinguis *Lec.* n. sp.
convexus *Lec.* n. sp.
obtusus *Lec.*
obesus *Lec.*
Eurymetopon ob. *Lec.*
ater *Lec.*
Eurymetopon at. *Lec.*
rugosus *Motsch.*—

§

longulus *Lec.*
Eurymetopon long. *Lec.*
texanus *Lec.* n. sp.

Auchmobius Lec.

sublaevis *Lec.*—

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[1] I have not studied critically the species of this family, and the list is simply a compilation: there are many species in my collection which have not yet been identified.

[2] *Cis thoracicornis* Ziegl. Proc. Ac. Nat. Sc. Phila. 2, 270, belongs to this genus, but the description does not enable it to be identified.

[3] The arrangement here adopted is somewhat different from that which is set forth in Classification of Coleoptera of North America, pp. 213, 214, and is partly modified according to the principles made known by Kraatz, Rev. Tenebr. alten Welt, 69, sqq.

EPITRAGINI.

Epitragus Latr.

submetallicus *Lec.*
acutus *Lec.* **n. sp.**
arundinis *Lec.* **n. sp.**
canaliculatus *Say.*
plumbeus *Lec.* **n. sp.**
tomentosus *Lec.* **n. sp.**

Schoenicus Lec.

puberulus *Lec.* **n. sp.**

ANEPSIINI.

Anepsius Lec.

delicatulus *Lec.*

Batulius Lec.

setosus *Lec.*
rotundicollis *Lec.*

ZOPHERINI.

Zopherus Sol.

nodulosus *Sol.*
  variolosus‡ *Hald.*
tristis *Lec.*
concolor *Lec.*

Phloeodes Lec.

diabolicus *Lec.*
  Nosoderma diab. *Lec.*
pustulosus *Lec.*
  Nosoderma pust. *Lec.*

Noserus Lec.

plicatus *Lec.*
  Nosoderma pl. *Lec.*

Phellopsis Lec.

porcata *Lec.*
  Nosoderma porc. *Lec.*
obcordata *Lec.*
  Boletophagus obc. *Kirby.*

DACODERINI.

Dacoderus Lec.

striaticeps *Lec.*

STENOSINI.

Araeoschizus Lec.

costipennis *Lec.*

APOCRYPHINI.

Apocrypha Esch.

anthicoides *Esch.*
dischyrioides *Lec.*

ASIDIDAE.

NYCTOPORINI.

Nyctoporis Esch.

galeata *Lec.*
cristata *Esch.*
carinata *Lec.*
aequicollis *Esch.*

CRYPTOGLOSSINI.

Centrioptera Mann.

caraboides *Mann.*—
muricata *Lec.*
spiculata *Lec.*
  an muricatæ gens?

Oochila Lec.

infausta *Lec.*
  Asbolus? ruf. *Lec.*
seriata *Lec.*
  Cryptoglossa ser. *Lec.*

Cryptoglossa Sol.

verrucosa *Lac.*
  Asbolus verr. *Lec.*
laevis *Lac.*
  Asbolus laev. *Lec.*

ASIDINI.

Microschatia Sol.

inaequalis *Lec.*
puncticollis *Lec.*
sulcipennis *Lec.*

Astrotus Lec.

contortus *Lec.*

Hologlyptus Lac.

anastomosis *Lac.*
  Asida anast. *Say.*
  Pactostoma anast. *Lec.*

Pelecyphorus Sol.

costipennis *Lec.*
sordidus *Lec.*
irregularis *Lec.*
  var. aeger *Lec.*
morbillosus *Lec.*
aegrotus *Lec.*
carinatus *Lec.*
bifurcus *Lec.*
connivens *Lec.* **n. sp.**
obsoletus *Lec.*
rimatus *Lec.*
  var. subcostatus *Lec.*
marginatus *Lec.*
confluens *Lec.*
parallelus *Lec.*
sexcostatus *Lec.*
muricatulus *Lec.*
hispidulus *Lec.*
hirsutus *Lec.*
costipennis *Lec.*
difformis *Lec.*
  var. elatus *Lec.*
angulatus *Lec.*

Asida Latr.

opaca *Say.*
lirata *Lec.*
  Pelecyphorus lir. *Lec.*
polita *Say.*

§ Euschides Lec.

obovata (*Lec.*)
convexa (*Lec.*)
convexicollis (*Lec.*)
puncticollis *Lec.* **n. sp.**

BRANCHINI.

Branchus Lec.

floridanus *Lec.* **n. sp.**

CONIONTINI.

Coelus Esch.

globosus *Lec.*
ciliatus *Esch.*

Eusattus Lec.

§ Discodemus Lec.
reticulatus *Lec.*
Zophosis ret. *Say.*

§

laevis *Lec.* n. sp.

§ Eusattus Lec.
difficilis *Lec.*
convexus *Lec.*
muricatus *Lec.*
dilatatus *Lec.*
puberulus *Lec.*
productus *Lec.*

§ Conipinus Lec.
dubius *Lec.*

§

robustus *Lec.* n. sp.

Coniontis Esch.

viatica *Esch.*
affinis *Lec.*
eschscholtzii *Mann.*
abdominalis *Lec.*
ovalis *Lec.*
lata *Lec.* n. sp.
obesa *Lec.*
subpubescens *Lec.*
nemoralis *Esch.*
puncticollis *Lec.*

TENEBRIONIDAE (genuini).

BLAPTINI.

Eleodes Esch.

obscura *Esch.*
Blaps obscura *Say.*
? B. hispilabris *Say.*
α. **dispersa** *Lec.*
β. **deleta** *Lec.*
arata *Lec.*
sulcipennis *Mann.*
acuta *Esch.*
Blaps acuta *Say.*
suturalis *Esch.*
Blaps sut. *Say.*
texana *Lec.*

§

pedinoides *Lec.*
asperata *Lec.*
robusta *Lec.*
tricostata *Lec.*
Blaps tric. *Say.*
Pimelia alternata *Kirby.*
El. planata‖ *Solier.*

§

sulcata *Lec.*
α. **convexa** *Lec.*
nupta *Lec.*
gracilis *Lec.*
sponsa *Lec.*
caudifera *Lec.*
obsoleta *Lec.*
Blaps obs. *Say.*

§

grandicollis *Mann.*

§

fusiformis *Lec.*
subnitens *Lec.*
extricata *Lec.*
Blaps extr. *Say.*
cognata *Hald.*
seriata *Lec.*
carbonaria *Lec.*
Blaps carb. *Say.*
vicina *Lec.*
soror *Lec.*
immunis *Lec.*
debilis *Lec.*
striolata *Lec.*
ventricosa *Lec.*
lucae *Lec.* n. sp.
innocens *Lec.* n. sp.
quadricollis *Esch.*
nigrina *Lec.*
longicollis *Lec.*
haydenii *Lec.*
gigantea *Mann.*
gentilis *Lec.*
omissa *Lec.*
armata *Lec.*
femorata *Lec.*
laticollis *Lec.*
α. **acuticauda** *Lec.*
dentipes *Esch.*

§

clavicornis *Esch.*
impressicollis *Boh.*

§

granulata *Lec.*
humeralis *Lec.*
aspera *Lec.* n. sp.
obtusa *Lec.*
hirsuta *Lec.*
subaspera *Lec.* n. sp.
scabripennis *Lec.*
inculta *Lec.*
planipennis *Lec.* n. sp.
producta *Esch.*
α. **constricta** *Lec.*
reflexicollis *Mann.*—
planata *Esch.*
α. **parvicollis** *Esch.*
consobrina *Lec.*
veseyi *Lec.*
scabrosa *Esch.*
subligata *Lec.*
viator *Lec.*
vix a sequente differt.
pimelioides *Mann.*
rotundipennis *Lec.*
stricta *Lec.*
intricata *Mann.*
an sequentis gens?
cordata *Esch.*
tuberculata *Esch.*
granosa *Lec.* n. sp.

Discogenia Lec.

scabricula *Lec.*
Eleodes scabr. *Lec.*
marginata *Lec.*
Eleodes marg. *Esch.*
α. **fischeri** (*Mann.*)

Promus Lec.

opacus *Lec.*
Blaps opaca *Say.*
Eleodes opaca *Lec.*

Embaphion Say.

muricatum *Say.*
var. concavum *Lec.*

§

contusum *Lec.*

§

depressum *Lec.*
Eleodes depr. *Lec.*

PEDININI.

Pedinus Latr.

? **suturalis** *Say.*—

Opatrinus Latr.

aciculatus *Lec.*
notus *Lec.*
Opatrum not. *Say.*
Tenebrio minimus *Beauv.*

Blapstinus Waterh.

- **crassus** *Lec.*
- **sordidus** *Lec.*
- **obliquus** *Lec.* n. sp.
- **sulcatus** *Lec.*
- **dilatatus** *Lec.*
  - ? Opatrum pullum *Say.*
- **longulus** *Lec.*
- **angustus** *Lec.*
- **brevicollis** *Lec.*
- **lecontei** *Muls.*
  - pubescens|| *Lec.*
- **vestitus** *Lec.*
- **pratensis** *Lec.*
- **pulverulentus** *Mann.*
- **moestus** *Mels.*
- **metallicus** *Lec.*
  - Blaps met. *Fabr.*
  - Opatrum interruptum *Say.*
  - B. aeneolus *Mels.*
  - B. interruptus *Lec.*
  - B. luridus *Muls.*

Conibius Lec.

- **seriatus** *Lec.*
- **parallelus** *Lec.*

Notibius Lec.

- **puberulus** *Lec.*
- **puncticollis** *Lec.*
- **sulcatus** *Lec.*
- **granulatus** *Lec.*
- **opacus** *Lec.* n. sp.

OPATRINI.

Ammodonus Muls.

- **fossor** *Muls.*
  - Opatrum fossor *Lec.*

Ephalus Lec.

- **latimanus** *Lec.*
  - Heliopates lat. *Lec.*

SCAURINI.

Eulabis Esch.

- **bicarinata** *Esch.*
- **grossa** *Lec.* n. sp.
- **rufipes** *Esch.*

§ Apsena Lec.

- **obscura** *Lec.*
- **pubescens** *Lec.*

Cerenopus Lec.

- **concolor** *Lec.*
- **cribratus** *Lec.*
- **bicolor** *Lec.*
- **sulcipennis** *Lec.*

TENEBRIONINI.

Polypleurus Sol.

- **nitidus** *Lec.* n. sp.
- **geminatus** *Sol.*
- **perforatus** *Lec.*
  - Upis perf. *Germ.*
  - Pol. punctatus *Sol.*

Rhinandrus Lec.

- **gracilis** *Lec.* n. sp.

Coelocnemis Mann.

- **obesa** *Lec.*
- **dilaticollis** *Mann.*
- **magna** *Lec.*
- **punctata** *Lec.*
- **californica** *Mann.*—

Cibdelis Mann.

- **blaschkii** *Mann.*
- **bachei** *Lec.*

Scotobaenus Lec.

- **parallelus** *Lec.*

Centronopus Sol.

- **opacus** *Lec.*

§

- **calcaratus** *Lec.*
  - Tenebrio calc. *Fabr.*
  - T. coracinus *Knoch.*
  - T. reflexus *Say.*
  - ? Hel. carolinensis *Beauv.*
  - ? T. aeneus *DeGeer.*

Merinus Lec.

- **laevis** *Lec.*
  - Tenebrio laevis *Oliv.*

Pachyurgus Lec.

- **aereus** *Lec.*
  - Iphthinus aer. *Mels.*

Xylopinus Lec.

- **saperdoides** *Lec.*
  - Tenebrio sap. *Oliv.*
  - Helops sap. *Beauv.* (♀).
  - H. calcaratus *Beauv.* (♂).
  - Ten. anthracinus *Knoch.*
- **aenescens** *Lec.* n. sp.
- **rufipes** *Lec.*
  - Tenebrio ruf. *Say.*

Haplandrus Lec.

- **femoratus** *Lec.*
  - Trogosita fem. *Fabr.*
  - Tenebrio fem. *Beauv.*
  - Upis fulvipes *Herbst.*
- **concolor** *Lec.* n. sp.

Upis Fabr.

- **ceramboides** *Fabr.*
  - Tenebrio cer. *Linn.*
  - U. reticulata *Say.*

Nyctobates Lec.

- **inermis** *Mann.*
- **pennsylvanica** *Lec.*
  - Tenebrio pens. *DeGeer.*
  - Upis chrysops *Herbst.*
  - Tenebrio sublaevis *Beauv.*
- **intermedia** *Hald.*
- **barbata** *Lec.*
  - Tenebrio barb. *Knoch.*
  - ? Upis glabra *Herbst.*

Iphthimus Truqui.

- **serratus** *Lac.*
  - Nyctobates serr. *Mann.*
- **sublaevis** *Lec.*
  - Nyctobates subl. *Bland.*
- **opacus** *Lec.* n. sp.

Glyptotus Lec.

- **cribratus** *Lec.*
  - ? Ten. variolosus *Beauv.*

Tenebrio Linn.

- **obscurus** *Fabr.*
  - tristis *Hald.*
- **molitor** *Linn.*
- **castaneus** *Knoch.*
  - interstitialis *Say.*
- ? **variolosus**‡ *Beauv.*—
- ? **elongatus** *Beauv.*—
- ? **rufinasus** *Say.*—

§ NEATUS Lec.[1]

- **tenebrioides** *Lec.*
  - Helops tenebr. *Beauv.*
  - Tenebrio badius *Say.*

Bius Muls.

- **estriatus** *Lec.*
  - Tenebrio estr. *Lec.*

HETEROTARSINI.

Anaedus Blanch.

- **brunneus** *Lec.*
  - Pandarus? br. *Ziegler.*
- **rotundicollis** *Lec.*

Paratenetus Spin.

- **punctatus** *Spin.*
- **fuscus** *Lec.*

ULOMINI.

Tribolium M'Leay.

- **ferrugineum** *Wollaston.*
  - Trogosita ferr. *Fabr.*
  - Tenebrio ferr. *Fabr.*
  - Dermestes navalis *Fabr.*
  - Lyctus nav. *Fabr.*
  - Ips testacea *Fabr.*
  - Colydium castaneum *Herbst*
  - ? Ips cinnamomea *Herbst.*
  - Tribolium cast. *M'Leay.*
  - Stene ferr. *Stephens.*
  - Margus ferr. *Redt.*
- **madens** *Redt.*
  - Tenebrio mad. *Charp.*
  - Margus obscurus *Redt.*

Aphanotus Lec.

- **brevicornis** *Lec.*
  - Eulabis brev. *Lec.*

Gnathocerus Thunb.

- **cornutus** *Thunb.*
  - Trogosita corn. *Fabr.*
  - Cerandria corn. *Lucas.*
- **maxillosus.**—
  - Trogosita max. *Fabr.*
  - Cerandria max. *Mannh.*

Cynaeus Lec.

- **angustus** *Lec.*

Tharsus Lec.

- **seditiosus** *Lec.* n. sp.

Uloma Laporte.

- **impressa** *Mels.*
- **imberbis** *Lec.* n. sp.
- **cava** *Lec.* n. sp.
- **longula** *Lec.*
- **punctulata** *Lec.* n. sp.

Alphitobius[2] Steph.

- **diaperinus** *Wollaston.*
  - Tenebrio diap. *Panzer.*
  - Phaleria diap. *Latr.*
  - Heterophaga diap. *Lucas.*
  - Uloma mauritanica *Curtis.*
  - A. mauritanicus *Steph.*
  - Heterophaga diap. *Lucas.*
- **piceus** *Muls.*
  - Helops pic. *Olivier.*
  - ? Ten. mauritanicus *Fabr.*
  - Tenebrio fagi *Panz.*
  - Phaleria fagi *Latr.*
  - Huloma fagi *Curtis.*
  - ? Tenebrio oryzae *Herbst.*
  - A. picipes *Steph.*
  - Heterophaga maur. *Lucas.*
  - H. fagi *Redt.*[2]

Ulosonia Laporte.

- **marginata** *Lec.*
  - Uloma marg. *Lec.*

TRACHYSCELINI.

Trachyscelis Latr.

- **flavipes** *Mels.*

PHALERIINI.

Phaleria Latr.

- **pilifera** *Lec.* n. sp.
- **rotundata** *Lec.*
- **testacea** *Say.*
- **longula** *Lec.* n. sp.
- **picipes** *Say.*
- **debilis** *Lec.* n. sp.
- **globosa** *Lec.*
- **humeralis** *Lap.*
- **picta** *Mann.*—

CRYPTICINI.

Crypticus Latr.

- **obsoletus** *Say.*

BOLETOPHAGINI.

Boletotherus Cand.

- **cornutus** *Candéze.*
  - Boletophagus corn. *Fabr.*
  - Opatrum corn. *Panzer.*
  - Phellidius cor. *Lec.* (olim).[3]

Boletophagus Illiger.

- **corticola** *Say.*
- **depressus** *Lec.*
  - Eledona depr. *Randall.*
  - Bol. tetraopes *Newm.*

Rhipidandrus Lec.

- **flabellicornis** *Lec.*
  - Xyletinus flab. *Sturm.*

DIAPERINI.

Pentaphyllus Latr.

- **pallidus** *Lec.* n. sp.

Diaperis Geoffroy.

- **hydni** *Fabr.*
  - maculata *Oliv.*

Hoplocephala Lap.

- **viridipennis** *Lap.*
  - Diaperis vir. *Fabr.*
- **bicornis** *Lec.*
  - Diaperis bic. *Oliv.*
  - Hispa bic. *Fabr.*
  - Opl. virescens *Lap.*
  - D. (Arrhenoplita) bic. *Kirby.*

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[1] Although the middle trochantin is scarcely visible in this species I do not think it can be properly separated from the genus *Tenebrio.*

[2] The synonymy of the two species of *Alphitobius*, both of which are introduced, is copied from the excellent work of Mulsant, Coleopt. France, Latigénes, p. 236, 238.

[3] This genus was characterized by me under the name *Phellidius* in the first issue of the Class. Col. N. America, p. 236, but on learning that it had been previously described by Candéze, the proper alteration was made in the next issue.

chalybea *Lap.*—
collaris *Lap.*—

Platydema Lap.

excavatum *Dej.*
Diaperis exc. *Say.*
cyanescens *Lap.*
erythrocerum *Lap.*

§

oregonense *Lec.*
politum *Lap.*
subcostatum *Lap.*
americanum *Lap.*
clypeatum *Hald.*
laevipes *Hald.*
picilabrum *Mels.*
ellipticum *Lap.*
Mycetophagus ell. *Fabr.*
Tenebrio ell. *Fabr.*
flavipes *Lap.*
Diaperis flav. *Fabr.*
basale *Hald.*
ruficorne *Hald.*
Diaperis ruf. *Sturm.*
P. rufiventre *Lap.*
P. anale *Hald.*
Neomida rufa *Mels.*
ruficollis *Lap.*
sanguinicolle *Hald.*
Neomida sang. *Mels.*
laeve *Hald.*
quadrimaculata *Lap.*—
cyanea *Lap.*—
pallens *Lap.*—

Metaclisa DuVal.

atra *Lec.* **n. sp.**

Scaphidema Redt.

aeneolum *Lac.*
Nelites aen. *Lec.*

Alphitophagus Steph.[1]

bifasciatus *Lec.*
Diaperis bif. *Say.*

HYPOPHLOEINI.[2]

Evoplus Lec.

ferrugineus *Lec.* **n. sp.**

Hypophloeus Fabr.

parallelus *Mels.*
thoracicus *Mels.*
cavus *Lec.* n. sp.[3]

Delopygus Lec.

crenatus *Lec.* **n. sp.**

Eutochia Lec.

picea *Lec.*
Uloma picea *Mels.*
Aniara|| picea *Lac.*

Sitophagus Muls.

pallidus *Lec.*
Pytho pall. *Say.*
Adelina pall. *Lec.*
planus *Lec.*
Adelina plana *Lec.*

Prateus Lec.

fusculus *Lec.* **n. sp.**

Dioedus Lec.

punctatus *Lec.* **n. sp.**

HELOPINI.

Cratidus Lec.

osculans *Lec.*
Amphidora osc. *Lec.*

Amphidora Esch.

nigropilosa *Lec.*
littoralis *Esch.*

Stenotrichus Lec.

rufipes *Lec.*
Amphidora? ruf. *Lec.*
? **attenuatus** *Lec.*
Amphidora? att. *Le*

Helops Fabr.

micans *Fabr.*
vittatus *Oliv.*
taeniatus *Beauv.*
rugulosus *Lec.*
impolitus *Lec.* n. sp.
undulatus *Lec.* n. sp.
americanus *Beauv.*—
venustus *Say.*
laetus *Lec.*
pernitens *Lec.*
californicus *Mann.*
angustus *Lec.*
gracilis *Bland.*
punctipennis *Lec.* **n. sp.**
sulcipennis *Lec.* **n. sp.**
bachei *Lec.*
rugicollis *Lec.* **n. sp.**
opacus *Lec.*
discretus *Lec.* **n. sp.**
cisteloides *Germ.*
convexulus *Lec.*
aereus *Germ.*
pullus *Say.*
aratus *Say.*
tumescens *Lec.* **n. sp.**
farctus *Lec.*
? **tristis** *Beauv.*—

MERACANTHINI.

Meracantha Kirby.

contracta *Lec.*
Helops contractus *Beauv.*
M. canadensis *Kirby.*
Psorodes contr. *Solier.*
Helops tumidus *Mels.*

STRONGYLIINI.

Strongylium Kirby.

tenuicolle *Lec.*
Helops ten. *Say.*
terminatum *Lec.*
Tenebrio term. *Say.*[5]

---

[1] *Phylethus* Redt.

[2] In the Class. Col. N. America this tribe is named *Adelinini*, but the genus *Adelina* was previously described by Mulsant as *Sitophagus*, and it therefore becomes necessary to change the name of the tribe.

[3] *H. nitidus* Mels. is a specimen of the European *H. castaneus*, placed by error in the collection.

[4] The specimen is too much broken to enable me to refer it with certainty to the proper genus.

[5] *Dysmathes sahlbergi* Mann., Bull. Mosc. 1853, 265, does not appear in the list; the description is not sufficiently definite to indicate its place, but I cannot avoid thinking that on re-examination it will be found to have some relation to *Iphthimus*. The affinities with *Gnathosia* and *Nyctelia* mentioned by Mannerheim are improbable for both structural and geographical reasons.

AEGIALITIDAE.

Aegialites Mann.

debilis *Mann.*
Elosoma californicum *Motsch.*

CISTELIDAE.

Stenochidus Lec.

gracilis *Lec.*
Stenochia grac. *Lec.*
cyanescens *Lec.*
Prionychus cyan. *Lec.*

Allecula Fabr.

erythrocnemis *Germ.*
punctulata *Mels.*
socia *Lec.*
nigrans *Mels.*
Cistela atra‖ *Say.*

Hymenorus Muls.

pilosus *Lec.*
Allecula pil. *Mels.*
obscurus *Lec.*
Allecula obsc. *Say.*
punctulatus *Lec.*
Allecula punct. *Lec.*
niger *Lec.*
Allecula nigra *Mels.*
communis *Lec.* n. sp.
rufipes *Lec.*
Mycetophila ruf. *Lec.*
confertus *Lec.* n. sp.
densus *Lec.* n. sp.
punctatissimus *Lec.* n. sp.
humeralis *Lec.* n. sp.

Cistela Fabr.

brevis *Say.*
var. erythropus *Ziegler.*
pinguis *Lec.*
Xystropus ping. *Lec.*
opaca *Lec.*
marginata *Ziegler.*

§

sericea *Say.*[1]

Isomira Muls.

quadristriata *Lec.*
Cistela 4-str. *Couper.*
velutina *Lec.* n. sp.

Mycetochares Latr.

§ STIGMATOMA Lec.

haldemani *Lec.* n. sp.
fraterna *Lec.*
Cistela fr. *Say.*
basillaris (*Say*).—

§

bicolor *Couper.*
foveatus *Lec.* n. sp.
tenuis *Lec.* n. sp.

§

binotata *Lec.*
Cistela bin. *Say.*

Chromatia Lec.

amoena *Lec.*
Cistela am. *Say.*

Capnochroa Lec.

fuliginosa *Lec.*
Cistela ful. *Mels.*

Androchirus Lec.

fuscipes *Lec.*
Cistela fusc. *Mels.*
luteipes *Lec.*

Cteniopus Sol.

murrayi *Lec.* n. sp.

LAGRIIDAE.

Arthromacra Kirby.

aenea *Lec.*
Lagria aen. *Say.*
Arthr. donacioides *Kirby.*

Statira Latr.

croceicollis *Mäklin.*—
resplendens *Mels.*
gagatina *Mels.*
subnitida *Lec.* n. sp.

MONOMMIDAE.

Hyporhagus Thoms.

lecontei *Thoms.*—
punctulatus *Thoms.*
opaculus *Lec.* n. sp.

PYROCHROIDAE.[2]

Eupleurida Lec.

costata *Lec.* n. sp.

Pyrochroa Fabr.

flabellata *Fabr.*
femoralis *Lec.*

Schizotus Newm.

cervicalis *Newm.*

Dendroides Latr.

POGONOCERUS Fischer.

canadensis *Latr.*
Pog. bicolor *Newm.*
concolor *Lec.*
Pogonocerus conc. *Newm.*
testacea *Lec.*
ephemeroides *Lec.*
Pogonocerus eph. *Mann.*

ANTHICIDAE.

PEDILINI.

Nematoplus Lec.

collaris *Lec.*

Eurygenius Ferté.

wildii *Lec.*
murinus *Lec.*
Ichthydion mur. *Hald.*
constrictus *Lec.*

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[1] *Cistela erythropa* Kirby, Fauna Bor. Am. 239, cannot be identified from the description, but I suspect, if the tarsi are not lobed, that it is one of the species of *Androchirus.*

[2] The sequence of the following families is different from that adopted in the Classification of Coleoptera of North America, in which my effort was to arrange them in such manner as to exhibit the gradual degradation of type from Tenebrionidæ to Stylopidæ. The arrangement in the present List is copied from DuVal's Genera des Coléopt. d'Europe, and exhibits the collateral relations of the families in a more perfect manner than any other known to me.

Stereopalpus Ferté.
mellyi *Ferté.*
badiipennis *Lec.*
guttatus *Lec.*

Bactrocerus Lec.
concolor *Lec.* n. sp.

Corphyra Say.[1]
punctulata (*Lec.*)
collaris *Say.*
  Anthicus coll. *Say.* (♀).
  P. rufithorax *Newm.*
  P. infumatus‡ *Lec.*
lugubris *Say.*
  Anthicus lug. *Say.*
  Pyroc. inornata *Randall.*
  Ped. imus *Newm.*
  Ped. nigricans *Ziegler.*
labiata *Say.*
  Anthicus lab. *Say.*
  Pyrochroa infumata *Hentz*
  Ped. marginicollis *Ziegler.*
pulchar (*Lec.*)
impressa *Say.*
  Anthicus imp. *Say.*
terminalis *Say.*
  Anthicus term. *Say.* (♂).
  Ped. guttula *Newm.* (♂).
elegans (*Lec.*)
  Pyrochroa el. *Hentz.*
  Ped. haemorrhoidalis *Ziegl.* (♂).
  Ped. ruficollis *Ziegl.* (♀).
newmani (*Lec.*)
  Ped. lugubris‖ *Newm.*
cyanipennis (*Bland.*)
fulvipes (*Newman.*)
canaliculata *Lec.* n. sp.

MACRATRIINI.

Macratria Newm.
linearis *Newm.*—
confusa *Lec.*
murina *Lec.*
  Dircaea murina *Fabr.*
  Macrarthria mur. *Er.*
  Macrarthrius mur. *Ferté.*

ANTHICINI.

Notoxus Geoffr.
anchora *Hentz.*
  Monocerus anch. *Lec.*
conformis *Lec.*
cavicornis *Lec.*
sparsus *Lec.*
serratus *Lec.*
  Monocerus serr. *Lec.*
monodon *Ferté.*
  Anthicus mon. *Fabr.*
  Monocerus mon. *Lec.*
apicalis *Lec.*
  Monocerus monodon‡ *Lec.*
marginatus *Lec.*
subtilis *Lec.*
bifasciatus *Lec.*
  Monocerus bif. *Lec.*
talpa *Ferté.*—
elegantulus *Ferté.*—
bicolor *Ferté.*
  Anthicus bic. *Say.*
  Monocerus bic. *Lec.*
pilati *Ferté.*—
planicornis *Ferté.*—

Tomoderus Ferté.
interruptus(*Ferté.*)
  vix a sequente differt.
constrictus *Say.*

Formicomus Ferté.
scitulus *Lec.*
mundus *Lec.*
  Formicilla mund. *Lec.*

Anthicus Fabr.
obscurus *Ferté.*
nitidulus *Lec.*
elegans *Ferté.*
tenuis *Lec.*
formicarius *Ferté.*
cinctus *Say.*
annectens *Lec.*
californicus *Ferté.*
rejectus *Lec.*
floralis *Paykull.*
  var. basillaris *Say.*
vicinis *Ferté.*
thoracicus *Ferté.*
confinis *Lec.*
horridus *Lec.*
cribratus *Lec.*
difficilis *Lec.*
confusus *Lec.*
luteolus *Lec.*
nigrita *Mann.*
scabriceps *Lec.*
ephippium *Ferté.*
flavicans *Lec.*
rufulus *Lec.*
cervinus *Ferté.*
  bifasciatus‖ *Say.*
  bizonatus *Ferté.*
  terminalis *Lec.*
punctulatus *Lec.*
haldemani *Lec.*
  quadriguttatus‖ *Hald.*
quadrilunatus *Ferté.*
biguttulus *Lec.*
nigritulus *Lec.*
obscurellus *Lec.*
latebrans *Lec.*
spretus *Lec.*
nanus *Lec.*
bellulus *Lec.*
pubescens *Lec.*
fulvipes *Ferté.*
corticalis *Lec.*
maritimus *Lec.*
ictericus *Ferté.*—
coracinus *Lec.*
pallens *Lec.*
granularis *Lec.*
exilis *Ferté.*—
laetus *Ferté.*—
melancholicus *Ferte.*—
pusillus *Ferté.*—
squamosus *Ferté.*—
lugubris *Ferté.*—
impressipennis *Ferté.*—
texanus *Ferté.*—
pallidus *Say.*—
? **politus** *Say.*—

Tanarthrus Lec.
salinus *Lec.*
alutaceus *Lec.*
  Anthicus al. *Lec.*

XYLOPHILINI.

Xylophilus Latr.
melsheimeri *Lec.*
notatus *Lec.*
piceus *Lec.*
fasciatus *Mels.*
signatus *Hald.*
basalis *Lec.*

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[1] *Pedilus* auct. Differs from that genus by the 6th ventral segment being visible; compare Lacordaire, Gen. Col. V, 577, and DuVal, Gen. Col. Eur. III, 364.

MELANDRYIDAE.

SCRAPTIINI.

Scraptia Latr.
sericea *Lec.*
Orchesia ser. *Mels.*
Calasia ser. *Hald.*

Allopoda Lec.
lutea *Lec.*
Scraptia lut. *Hald.*

Canifa Lec.
americana *Lec.*
Scraptia am. *Hald.*
S. pallipes var. *Mels.*
pusilla *Lec.*
Scraptia pus. *Hald.*
pallipes *Lec.*
Scraptia pall. *Mels.*
S. biimpressa *Hald.*

TETRATOMINI.

Tetratoma Fabr.
truncorum *Lec.* n. sp.
tessellata *Mels.*

STENOTRACHELINI.

Stenotrachelus Latr.
arctatus *Lec.*
Helops arct. *Say.*
St. obscurus *Mann.*

MELANDRYINI.

Penthe[1] Newm.
obliquata *Newm.*
Helops obliqu. *Fabr.*
pimelia *Mels.*
Helops pim. *Fabr.*
P. funerea *Newm.*

Synchroa Newm.
punctata *Newm.*
Meland. umbrina *Mels.*
Phaiona umb. *Hald.*

Nothus Oliv.
varians *Lec.* n. sp.

Phryganophilus Sahl.
collaris *Lec.*

Emmesa Newm.
connectens *Newm.*
Mel. maculata *Lec.*
labiata *Lec.*
Melandrya lab. *Say.*

Melandrya Fabr.
striata *Say.*
var. excavata *Hald.*

Prothalpia Lec.
undata *Lec.* n. sp.

Xylita Payk.
laevigata *Lac.*
Serropalpus laev. *Hellenius*
X. buprestoides *Payk.*
Dircaea discolor *Fabr.*

Carebara Lec.
longula *Lec.* n. sp.

Spilotus Lec.
quadripustulosus *Lec.*
Hallomenus quadr. *Mels.*

Zilora Muls.
hispida *Lec.* n. sp.

Hypulus Payk.
simulator *Newm.*
trifasciatus *Mels.*

Marolia Muls.
fulminans *Lec.*
Hypulus? fulm. *Lec.*
? Dircaea holmbergi *Mann.*

Serropalpus Hell.
striatus *Hellenius.*
substriatus *Hald.*
obsoletus *Hald.*

Enchodes Lec.
sericea *Lec.*
Dircaea ser. *Hald.*
Phloiotrya ser. *Lec.*

Dircaea Fabr.
liturata *Lec.*
Serropalp. quadrimaculatus|| *Say.*
concolor *Lec.* n. sp.
? decolorata *Randall.*—

Anisoxya Muls.
glaucula *Lec.* n. sp.

Symphora Lec.
flavicollis *Lec.*
Scraptia flav. *Hald.*
Trotomma flav. *Lec.*
rugosa *Lec.*
Scraptia rug. *Hald.*
Trotomma rug. *Lec.*

Hallomenus Panz.
scapularis *Mels.*
Mycetochares ruficornis *Mels.*
var. H. luridus *Hald.*
punctulatus *Lec.* n. sp.
debilis *Lec.* n. sp.
basalis *Mann.*—

Eustrophus Latr.
indistinctus *Lec.*
confinis *Lec.* n. sp.
bicolor *Latr.*
Mycetophagus bic. *Fabr.*
bifasciatus *Say.*
quadrimaculatus *Mels.*
tomentosus *Say.*
niger *Mels.*

Orchesia Latr.
castanea *Mels.*
gracilis *Mels.*

Microscapha Lec.
clavicornis *Lec.* n. sp.

MORDELLIDAE.

MORDELLIDAE (genuini).

ANASPINI.

Diclidia Lec.
laetula *Lec.*
Anaspis laet. *Lec.*

Pentaria Muls.
trifasciata *Lec.*
Anaspis trif. *Mels.*
Anthobates trif. *Lec.*

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[1] The genus *Penthe* represents in this country the European *Mycetoma*.

- **fuscula** *Lec.*
- **nubila** *Lec.*

Anaspis Latr.

- **nigra** *Lec.*
  - Hallomenus nig. *Hald.*
- **atra** *Lec.*
- **sericea** *Mann.*
- **luteipennis** *Lec.*
- **flavipennis** *Hald.*
- **rufa** *Say.*
  - pallescens *Mann.*
  - ventralis *Mels.*
  - filiformis *Lec.*
- **nigriceps** *Lec.*
- **pusio** *Lec.*
- **collaris** *Lec.*

MORDELLINI.

Tomoxia Costa.

- **bidentata** *Lec.*
  - Mordella bid. *Say.*
- **lineella** *Lec.*
- **inclusa** *Lec.*

Glipa Lec.

- **hilaris** *Lec.*
  - Mordella hil. *Say.*

Mordella Linn.

- **quadripunctata** *Lec.*
  - Anaspis quadr. *Say.*
- **borealis** *Lec.*
- **melaena** *Germ.*
  - Sphalera mel. *Lec.*
- **scutellaris** *Fabr.*
- **irrorata** *Lec.*
- **inflammata** *Lec.*
  - an sequentis var.?
- **octopunctata** *Fabr.*
- **marginata** *Mels.*
- **lineata** *Mels.*
  - vix a praec. differt.
- **lunulata** *Helmuth.*—
- **serval** *Say.*
- **oculata** *Say.*
- **insulata** *Lec.*
- **triloba** *Lec.*
  - Anaspis tril. *Say.*
- **undulata** *Mels.*
- **discoidea** *Mels.*

Glipodes Lec.

- **sericans** *Lec.*
  - Mordella ser. *Mels.*
- **helva** *Lec.*

Mordellistena Costa.[1]

- **bicinctella** *Lec.*
- **arida** *Lec.*
- **lutea** (*Mels.*)
- **nigricollis** *Helmuth.*
  - an sequentis var.?
- **trifasciata** (*Say.*)
- **lepidula** *Lec.*
  - an praecedentis var.?
- **limbalis** (*Mels.*)
- **vapida** *Lec.*
- **vilis** (*Lec.*)
- **decorella** *Lec.*
- **ornata** (*Mels.*)
- **militaris** *Lec.*
- **scapularis** (*Say.*)
  - var. biplagiata *Helmuth.*
- **comata** (*Lec.*)
- **tosta** *Lec.*
- **picicornis** *Lec.*
  - var. bipustulata *Helmuth.*
  - var. rubrilabris *Helmuth.*
- **cervicalis** *Lec.*
- **aspersa** (*Mels.*)
  - intermixta *Helmuth.*
- **fulvicollis** (*Mels.*)
  - var. dimidiata *Helmuth.*
- **amica** *Lec.*
- **infima** *Lec.*
- **andreae** *Lec.*
- **grammica** *Lec*
- **ancilla** *Lec.*
- **varians** *Lec.*
- **ustulata** *Lec.*
- **semiusta** *Lec.*
  - var. rufula *Helmuth.*
- **impatiens** *Lec.*
- **nigricans** (*Mels.*)
  - nigerrima *Helmuth.*
- **picilabris** *Helmuth.*—
- **ruficeps** *Lec.*
- **nubila** (*Lec.*)
- **guttulata** *Helmuth.*—
- **pustulata** (*Mels.*)
- **convicta** *Lec.*
- **fuscipennis** (*Mels.*)
- **pectoralis** (*Lec.*)
- **morula** *Lec.*
- **ambusta** *Lec.*
- **unicolor** *Lec.*
  - var. fuscoatra *Helmuth.*
- **marginalis** (*Say.*)
- **divisa** *Lec.*
  - auricoma *Helmuth.*
  - an M. tostae var.?
- **pubescens** (*Fabr.*)
- **liturata** (*Mels.*)
- **bihamata** (*Mels.*)
- **hebraica** *Lec.*
- **leporina** *Lec.*
- **fuscata** (*Mels.*)
- **pityptera** *Lec.*
- **angusta** *Lec.*
- **attenuata** (*Say.*)
- **vittigera** *Lec.*
- **discolor** (*Mels.*)
  - scalaris *Helmuth.*
- **suturella** *Helmuth.*—
  - var. rufiventris *Helmuth.*
- **aemula** *Lec.*
- **nigripennis** (*Fabr.*)—

RHIPIPHORIDAE.

EVANIOCERINI.

Pelecotoma Fisch.

- **flavipes** *Mels.*

RHIPIPHORINI.

Macrosiagon Hentz.

- **dimidiata** *Hentz.*
  - Rhipiphorus dim. *Fabr.*
- **flavipennis** *Lec.* n. sp.

Rhipiphorus Fabr.[2]

- **octomaculatus** *Gerst.*
- **puncticeps** *Lec.*

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[1] *Mordella* auct.; those species having the authorities in parentheses were first referred to this genus by me; *vide* Pr. Acad. Nat. Sc. Phila. 1862, p. 48. The ridges of the hind tibiæ and tarsi are slightly variable in some species, and more extensive collections may prove a few of the species to be untenable.

[2] I have, in the Classification of Coleoptera, p. 276, adopted the name *Emmenadia*, given by Laporte, when he divided the Fabrician species into two genera. DuVal has clearly shown (Gen. Col. Eur III, 412,) that the name *Rhipiphorus* should have been retained for the present genus, instead of the one to which Laporte applied it.

militaris *Mels.*
? nigricornis *Fabr.*
pectinatus *Fabr.*
humeratus *Fabr.*
sanguinolentus *Germ.*
dubius *Mels.*
impressus *Mels.*
ambiguus *Mels.*
longipes *Mels.*
thoracicus *Mels.*
varicolor *Gerst.*
α. **ventralis** *Fabr.*
maxillosus *Mels.*
sayi *Lec.*
bicolor‖ *Say.*
niger *Mels.*
fasciatus *Mels.*
? tristis *Fabr.*

§

cruentus *Germ.*
linearis *Lec.* n. sp.
limbatus *Fabr.*

MYODITINI.

Myodites Latr.

scaber *Lec.*
semiflavus *Lec.*
luteipennis *Lec.*
fasciatus *Lec.*
Dorthesia fasc. *Say.*
walshii *Lec.*
flavicornis *Lec.*—
Dorthesia flav. *Say.*
stylopides *Newm.*
americanus *Guér.*—

STYLOPIDAE.

Stylops Kirby.

childreni *Gray.*—

Xenos Rossi.

peckii *Kirby.*

MELOIDAE.

MELOINI.

Meloe Linn.

rugipennis *Lec.*
montanus *Lec.* n. sp.
tinctus *Lec.* n. sp.
carbonaceus *Lec.* n. sp.
afer *Bland.*—
impressus *Kirby.*
americanus‡ *Er.*
? var. niger *Kirby.*
opacus *Lec.*
barbarus *Lec.*
perplexus *Lec.*
strigulosus *Mann.*
angusticollis *Say.*
? americanus *Leach.*
moerens *Lec.*

§

sublaevis *Lec.*

Nomaspis Lec.

parvula *Lec.*
Meloe parvus‖ *Hald.*
M. parvulus *Hald.*

Henous Hald.

confertus *Lec.*
Meloe conf. *Say.*
H. techanus *Hald.*

Megetra Lec.

cancellata *Lec.*
Meloe canc. *Er.*
vittata *Lec.*
Cysteodemus vitt. *Lec.*

Cysteodemus Lec.

armatus *Lec.*
wislizeni *Lec.*

LYTTINI.

Tricrania Lec.

sanguinipennis *Lec.*
Horia sang. *Say.*
stansburii *Lec.*
Horia stansb. *Hald.*
murrayi *Lec.*

Apterospasta Lec.

valida *Lec.*
Lytta val. *Lec.*
segmentata *Lec.*
Lytta segm. *Say.*

Macrobasis Lec.

fulvescens (*Lec.*)
immaculata (*Say*). (♀).
L. articularis *Say.* (♂).
longicollis (*Lec.*)
ochrea (*Lec.*)
albida *Lec.*
Lytta albida *Say.* (♀).
L. luteicornis *Lec.* (♂).
sublineata (*Lec.*)
atrivittis (*Lec.*)
torsa (*Lec.*)
tenuis (*Lec.*)
unicolor.—
Cantharis un. *Kirby.*
fabricii (*Lec.*)
Lytta cinerea‖ *Fabr.*
murina (*Lec.*)
debilis (*Lec.*)
virgulata *Lec.* n. sp.
linearis (*Lec.*)

Pleuropompha Lec.

costata (*Lec.*)

Epicauta Redt.[1]

puncticollis *Mann.*
oblita (*Lec.*)
maura (*Lec.*)
pedalis *Lec.* n. sp.
convolvuli *Lec.*
Canth. atr. var. conv. *Mels.*
trichrus.—
Meloe trichrus *Pallas.*
pensylvanica *Lec.*
Cantharis pens. *DeGeer.*
Lytta atrata *Fabr.*
C. atrata *Oliv.*
Meloe atra *Pallas.*
L. coracina *Illiger.*
Meloe nigra *Woodhouse.*
morio (*Lec.*)
corvina (*Lec.*)
fissilabris (*Lec.*)
cinerea *Lec.*
Meloe cin. *Forster.*
L. marginata *Fabr.*
Cantharis marg. *Oliv.*
M. clematidis *Woodhouse.*
nigritarsis (*Lec.*)
maculata *Lec.*
Lytta macul. *Say.*
α. **pardalis** *Lec.* n. sp.
β. **conspersa** (*Lec.*)

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[1] This genus corresponds with *Lytta* Fairmaire, (DuVal, Gen. Col. Eur. iii, 432.)

vittata *Dej.*
  Lytta vitt. *Fabr.*
  Cantharis vitt. *Oliv.*
  M. chapmani *Woodhouse.*
lemniscata *Dej.*
  Lytta lemn. *Fabr.*
? **lineata** *Dej.*—
  Cantharis lin. *Oliv.*
sanguinicollis (*Lec.*)—
tenella (*Lec.*)
strigosa *Dej.*
  Lytta strig. *Schönherr.*
ferruginea *Lec.*
  Lytta ferr. *Say.*
  Canth. nigricornis *Mels.*
sericans *Lec.* n. sp.
pruinosa *Lec.* n. sp.
callosa *Lec.* n. sp.

Pyrota Lec. (†Chevr.)

mylabrina *Chevr.*
engelmanni (*Lec.*)
terminata *Lec.* n. sp.
postica *Lec.* n. sp.
  L. mylabrina β *Lec.*
vittigera (*Lec.*)
insulata (*Lec.*)
germari *Lec.*
  Lytta germ. *Hald.*
discoidea (*Lec.*)
limbalis *Lec.* n. sp.
afzeliana *Dej.*—
  Lytta afz. *Fabr.*
  Canth. sinuata *Oliv.*

Pomphopoea Lec.

polita *Lec.*
  Lytta pol. *Say.*
  var. L. femoralis *Lec.*
sayi (*Lec.*)
  Canth. pyrivora *Fitch.*
unguicularis *Lec.* n. sp.
texana *Lec.* n. sp.
filiformis (*Lec.*)
aenea *Lec.*
  Lytta aen. *Say.*
  L. nigricornis *Lec.*
tarsalis *Lec.*
  Lytta tars. *Bland.*

Lytta Fabr.[1]

vulnerata *Lec.*
cooperi *Lec.*
cribrata *Lec.*
reticulata *Say.*
quadrimaculata *Chevr.*
eucera *Chevr.*
cardinalis *Chevr.*
  fulvipennis *Lec.*
dichroa *Lec.*
biguttata *Lec.*
puberula *Lec.* n. sp.
nitidicollis *Lec.*
childii *Lec.*
moerens *Lec.*
melaena *Lec.*
tenebrosa *Lec.*
salicis *Lec.*
  an a seq. differt?
cyanipennis *Lec.*
nuttalli *Say.*
  var. fulgifera *Lec.*
viridana *Lec.* n. sp.
aeneipennis *Lec.*
smaragdula *Lec.*
stygica *Lec.*
rathvoni *Lec.*
lugens *Lec.*
sphaericollis *Say.*
  chalybea *Lec.*
convexa *Lec.*

Calospasta Lec.

elegans *Lec.*
  Epicauta el. *Lec.*

Tegrodera Lec.

erosa *Lec.*

Eupompha Lec.

fissiceps *Lec.*

Phodaga Lec.

alticeps *Lec.*

Tetraonyx Latr.

quadrimaculata *Latr.*
  Apalus quadr. *Fabr.*
fulva *Lec.*

Zonitis Fabr.

atripennis *Lec.*
  Nemognatha atr. *Say.*
flavida *Lec.*
  ? an praeced. var.
bilineata *Say.*
  var. lineata *Mels.*
  var. mandibularis *Mels.*

Nemognatha Ill.

bicolor *Lec.*
lurida *Lec.*
apicalis *Lec.*
pallens *Lec.*
lutea *Lec.*
dichroa *Lec.*
dubia *Lec.*
palliata *Lec.*
piezata *Lec.*
  Zonitis piez. *Fabr.*
  Z. vittata *Fabr.*
  Nemognatha vitt. *Ill.*
texana *Lec.*
decipiens *Lec.*
punctulata *Lec.*
flavipennis *Uhler.*
nigripennis *Lec.*
scutellaris *Lec.*
nemorensis *Hentz.*
  bimaculata *Mels.*
cribraria *Lec.*
immaculata *Say.*
vittigera *Lec.*
cribricollis *Lec.*
porosa *Lec.*[2]
  var. fuscipennis *Lec.*

Gnathium Kirby.

francilloni *Kirby.*—
minimum *Say.*
longicolle *Lec.*
  Nemognatha long. *Lec.*
flavicolle *Lec.*
  Nemognatha fl. *Lec.*

CEPHALOIDAE.

Cephaloon Newm.

lepturides *Newm.*
  var. varians *Hald.*

OEDEMERIDAE.

Calopus Fabr.

angustus *Lec.*
aspersus *Lec.* n. sp.

---

[1] This genus corresponds with *Cantharis* Fairmaire in DuVal, Gen. Col. Eur. iii, 431; *Lagorina* Muls., should probably be reunited with it. The differences do not appear to have generic value.

[2] *N. calceolata* Guér. Icon. R. An. 136, is not recognizable.

Microtonus Lec.

sericans *Lec.* n. sp.

Ditylus Fischer.

coeruleus *Hald.*
Upis coeruleus *Rand.*
quadricollis *Lec.*
consors *Lec.*
gracilis *Lec.*
vestitus *Lec.*
obscurus *Lec.*
Asclera obs. *Lec*

Nacerdes Schmidt.

melanura *Schmidt.*
Cantharis mel. *Linn.*
Necydalis notata *Fabr.*
Oed. analis *Oliv.*
Oe. apicalis *Say.*

Xanthochroa Schmidt.

lateralis *Lec.*
Nacerdes lat. *Mels.*
Asclera lat. *Hald.*
var. A. signaticollis *Hald.*
trinotata *Lec.* n. sp.

Copidita Lec.

quadrimaculata *Lec.*
Probosca quadr. *Motsch.*
Nacerdes quadr. *Mann.*

Oxacis Lec.

cana *Lec.*
Asclera cana *Lec.*
pallida *Lec.*
Asclera pall. *Lec.*
taeniata *Lec.*
Asclera taen. *Lec.*
thoracica *Lec.*
Necydalis thor. *Fabr.*
Asclera thor. *Hald.*
Oedem. fraxini *Say.*
notoxoides *Lec.*
Necydalis not. *Fabr.*
Asclera not. *Hald.*
granulata *Lec.* n. sp.

§

bicolor *Lec.*
Asclera bic. *Lec.*
fuliginosa *Lec.* n. sp.

§

dorsalis *Lec.*
Nacerdes dors. *Mels.*
Xanthochroa vittata *Hald.*
Asclera dors. *Lec.*

Probosca Schmidt.

lucana *Lec.* n. sp.
pleuralis *Lec.* n. sp.

Asclera Schmidt.

excavata *Lec.*
ruficollis *Hald.*
Oedemera ruf. *Say.*
Ischn. carinata *Newm.*
puncticollis *Hald.*
Oedemera punct. *Say.*
? **erythrocephala.**—
Oedemera erythr. *Germ.*[1]

MYCTERIDAE.

MYCTERINI.

Mycterus Clairv.

concolor *Lec.*
scaber *Hald.*

LACCONOTINI.

Lacconotus Lec.

punctatus *Lec.* n. sp.

PYTHIDAE.

PYTHINI.

Pytho Latr.

niger *Kirby.*
americanus *Kirby.*
? Tenebr. depressus|| *Fabr.*
deplanatus *Mann.*—
strictus *Lec.* n. sp.

Crymodes Lec.

discicollis *Lec.*

Priognathus Lec.

monilicornis *Lec.*
Dytilus mon. *Randall.*
Pytho ? sahlbergii *Mann.*

Boros Herbst.

unicolor *Say.*

CONONOTINI.

Cononotus Lec.

sericans *Lec.*
punctatus *Lec.*

SALPINGINI.

Salpingus Gyll.

virescens *Lec.*
Sphaeriestes vir. *Lec.*
alternatus *Lec.*
tibialis *Lec.* n. sp.
elongatus *Mann.*—

Rhinosimus Latr.

pallipes *Boh.*—
aeneirostris *Mann.*
nitens *Lec.* n. sp.

Tanyrhinus Mann.

singularis *Mann.*—

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[1] *Ischnomera unicolor* Mels. is a specimen of the European *Asclera coerulea.* I have not identified *Dryops rufifrons* Fabr., nor do I know to what genus or family it should be referred. *Oedemera vestita* Say, is perhaps a *Stereopalpus*, but cannot be properly identified.

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ADDITIONS AND CORRECTIONS.

p. 2. **Blethisa** Bon.
oregonensis *Lec.*
acutangula *Chaud.*

Calosoma Fabr.
after prominens.
lugubre *Lec.*

p. 3. **Carabus** Linn.
maeander *Fischer.*
lapilayi *Lap.*

Cychrus Fabr.
§ SPHAERODERUS Dej.
brevoorti *Lec.*
granulosus *Chaud.*
canadensis *Chaud.*—

§ IRICHROA Newm.
guyotii *Lec.*
andrewsii *Harris.*
germari *Chaud.*
ridingsii *Bland.*

Pasimachus Bon.
duplicatus *Lec.*
var. costifer *Lec.*

Dyschirius Bon.
abbreviatus *Putz.*—
obesus *Lec.*

p. 9. **Pterostichus** Bon.
mutus *Lec.*
Feronia polita *Harris.*

p. 10. § STEREOCERUS Kirby.
haematopus *Lec.*
Feronia haem. *Dej.*
Ster. similis *Kirby.*

p. 11. **Miscodera** Esch.
hardyi *Chaud.*—

p. 12. **Anisodactylus** Dej.
dulcicollis *Lec.*
Harpalus dulc. *Ferté.*
An. ellipticus *Lec.*

Bradycellus Er.
dele **obesulus** *Lec.*

p. 13. **Harpalus** Latr.
(after ellipsis.)
obesulus *Lec.*
Bradycellus ob. *Lec.*
dele **dulcicollis** *Ferté.*

Stenolophus Dej.
carbonarius *Brullé.*
Harpalus carb. *Dej.*

p. 14. **Anophthalmus** Sturm.
striatus *Motsch.*—
menetriesii *Motsch.*—
ventricosus *Motsch.*—

before Bembidium.
Tachypus Lac.
elongatus *Motsch.*—

Bembidium Latr.
after inaequale.
glabriusculum *Motsch.*—

p. 19. **Philhydrus** Sol.
before ochraceus.
consors *Lec.* n. sp.

Necrophorus Fabr.
sayi *Laporte.*
lunatus *Lec.*

p. 20. **Catops** Fabr.
after cryptophagoides.
pusio *Lec.*

p. 21. **Batrisus** Aubé.
dele **aculeatus** *Lec.* n. sp.

p. 22. after
Gyrophaena.

Agaricochara Kraatz.
geniculata *Lec.*
Gyrophaena gen. *Müklin.*

Aleochara Grav.
pallitarsis *Kirby.*—

p. 28. **Plegaderus** Er.
transversus *Er.*
Hister transv. *Say.*

p. 30. after **Lobiopa.**
Soronia Er.
guttulata *Lec.* n. sp.
Lobiopa‡ gutt. *Lec.*

Rhizophagus Herbst.
bipunctatus *Lec.*
Colydium bip. *Say.*

dele **Pityophagus.**

p. 35. **Heterocerus** Fabr.
undatus *Mels.*
brunneus *Mels.*

p. 40. **Cyclocephala** Latr.
immaculata *Burm.*
lurida *Bland.*

p. 44. **Drapetes** Redt.[1]
dele ? Dr. niger *Bonv.*
dele **plagiatus.**—

p. 45. before
CHALCOLEPIDIINI.
Meristhus Cand.
scobinula *Cand.*

p. 48. **Corymbites** Lat.
nigricollis *Bland.*—
nebraskensis *Bland.*—

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[1] *D. plagiatus* Boh., according to Bonvouloir, is a Brazilian species, identical with *D. praeustus* Bonv.

NOTE.—The following species of *Tachys* have been described by Motschulsky, Etudes Entom. 1862: *Tachyura brunnicollis*; *Tachys aeneipennis*; *Tachymenis reflexicollis, marginicollis*; *Polyderis testaceolimbata, glabrella.*

Corrections in synonymy and additions from works published during the printing of this list are not noticed on this page; all such will be contained in an appendix, to be prepared when the remaining part of the list is ready for the press.

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

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NEW SPECIES

OF

NORTH AMERICAN COLEOPTERA.

PREPARED FOR THE SMITHSONIAN INSTITUTION

BY

JOHN L. LECONTE, M.D.

PART I.

WASHINGTON:
SMITHSONIAN INSTITUTION:
MARCH, 1863.—APRIL, 1866.

ADVERTISEMENT.

THE following work is intended as a companion to the "List of the Coleoptera of North America," by Dr. LeConte. It contains the descriptions of the new species named by him in Part I of the "List," which embraces the families treated of in Part I of the Classification of the Coleoptera of North America.

The three works having been thus brought to the same point, it is the intention of Dr. LeConte to complete the series as soon as practicable.

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DESCRIPTIONS OF NEW SPECIES.

CICINDELA Linn.

1. C. hyperborea. Supra obscure cuprea, fronte utrinque subtiliter striata parce pilosa, thorace subquadrato, convexiusculo, dense minus subtiliter rugoso, lateribus albopilosis, elytris pone basin paulo latioribus, granulatis punctatis, ad apicem rotundatis serrulatis, spina suturali prominula; lunula humerali postice oblique prolongata, fascia media obtuse refracta postice obliqua, margineque ante apicem paulo dilatato, latis albis: subtus viridiænea, lateribus pilosis, labro brevi 1-dentato, palpis labialibus sexus utriusque articulo penultimo pallido. Long. ·45. Mas palporum maxillarium articulo 2ndo apice pallido.

Methy Portage, Hudson's Bay Territory; Mr. R. Kennicott. This species belongs to the same group with *C. repanda*, &c., but differs from all the species known to me by the markings. The white lines are all very broad, and arranged as follows: the humeral lunule commences at the base, extends along the margin, and then runs obliquely inwards, sometimes so as to touch the angle of the middle band; behind the lunule is a white margin, which extends to the tip, obtusely dilated near the tip, where it represents the apical lunule; the middle band arises perpendicularly from the white margin, bends backwards at an obtuse angle, runs obliquely nearly to the suture, and ends opposite the dilatation of the white margin; the hind part of the band is straight and gradually clavate. The elytra of the two sexes do not differ in form. In one specimen the marginal line is interrupted in front of the apical lunule, which thus becomes isolated.

ELAPHRUS Fabr.

2. E. olivaceus. Olivaceus, nitidus, capite thoraceque haud dense subtiliter auro-punctulatis, fronte convexa medio foveata, thorace latitudine fere longiore profunde impresso, antice posticeque angustato, lateribus rotundatis postice longe sinuatis, disco utrinque foveato, elytris foveis ocellatis solitis purpureo-tinctis, ad latera et apicem subtiliter haud dense punctulatis; pectoribus dense punctatis, pedibus testaceis, femoribus viriditinctis. Long. ·27.

Catskill Mountains, New York; Mr. Ulke. Resembles in form and appearance *E. politus* and *E. lævigatus*, but differs from both by the color, as well as by the fine golden punctures which cover the head, thorax, margin and tip of the elytra, and also by the more dense punctures of the breast.

BLETHISA Bon.

3. B. julii. Supra nigro-ænea cupreo-tincta, thorace punctato, latitudine breviore, lateribus rotundatis, angulis posticis obtusis subcarinatis, medio sublævi, linea dorsali haud profunda, basi utrinque impresso, margine laterali latiusculo reflexo, elytris thorace latioribus, oblongis, seriatim punctatis, interstitiis 3io et 5to latioribus foveis majusculis interruptis; subtus nigra. Long. ·45—·47.

Nova Scotia; Mr. Ulke. The interruption of the 3d and 5th intervals produce a catenated appearance: there are five foveæ on the 3d, and three on the 5th interval; the 7th interval is more elevated than the adjoining ones, but not interrupted.

I take great pleasure in dedicating this beautiful species to my accomplished friend, Mr. Julius Ulke, whose labors in the field with his brother, Henry Ulke, have produced much advantage to science.

DIACHILA Motsch.

4. D. subpolaris. Obscure ænea nitida, capite thoraceque modice punctatis, fronte medio fovea parva impressa, thorace latitudine paulo breviore postice angustato, lateribus antice rotundatis, postice sinuatis, angulis posticis rectis carinatis, basi utrinque profunde impresso, elytris elongatis thorace paulo latioribus, striis punctatis haud impressis, interstitio 3io tripunctato; subtus cum pedibus nigra. Long. ·35.

Hudson's Bay; Mr. Ulke. Allied to the European *D. arctica*, but differs by the thorax being more narrowed behind, and by the elytra being less dilated, and almost parallel. The genus Diachila is not mentioned in the first part of my classification, as it was not known to be represented in our fauna at the time the work was published. It differs from Blethisa by the last joint of the maxillary palpi being elongated as in Elaphrus; and from Elaphrus by the eyes being small, as in Blethisa, and the elytra striate, without large foveæ. It appears to me fully entitled to rank as a distinct

genus, although it is not received as such by many European entomologists.

LORICERA Latr.

5. L. californica. Aeneo-nigra nitida, thorace latitudine breviore, lateribus rotundatis, anguste reflexis, postice vix obsolete sinuatis, angulis posticis obtusis haud rotundatis, elytris subtiliter striatis, striis antice parce punctulatis, externis fere obliteratis, interstitio 3io trifoveato. Long. ·32.

San Francisco, California. Very nearly related to *L. semipunctata*, but differs by the much finer striæ of the elytra being not punctured, except quite near to the base, and by the lateral margin of the thorax being narrower.

6. L. neoscotica. Aeneo-nigra nitida, thorace latitudine fere sesqui breviore, lateribus rotundatis, reflexis, angulis posticis obtusis subrotundatis, elytris striis usque ad dodrantem fortiter punctulatis, interstitio 3io trifoveato; tibiis tarsisque obscure testaceis. Long. ·33.

Nova Scotia; Mr. Ulke. Also related to *L. semipunctata*, but differs by the thorax being more transverse, and by the hind angles being more obtuse and almost rounded.

NEBRIA Latr.

7. N. hudsonica. Nigra nitida, thorace latitudine duplo breviore, postice angustato, lateribus marginatis antice rotundatis, postice oblique sinuatis, angulis anticis rotundatis, posticis rectis vix prominulis, linea dorsali profunda, basi profunde, antice modice impresso, elytris oblongis, striis punctulatis, interstitio 3io quadripunctato. Long. ·41.

Saskatchewan, Hudson's Bay Territory. Closely resembles *N. moesta* Lec., but differs by the sides of the thorax being less sinuate, with the hind angles less prominent.

8. N. rudis. Aeneo-nigra, nitida, thorace latitudine sesqui breviore, postice paulo angustato, lateribus marginatis antice rotundatis, postice subsinuatis, angulis posticis rectis, apice et basi punctato, et profunde impresso, linea dorsali haud profunda; elytris striis vage foveatis et interruptis, interstitiis paulo convexis, 3io foveis 4 vel 5, 5to unica notatis. Long. ·44.

Methy, Mr. Kennicott: one specimen. Resembles in form *N. Eschscholtzii*, but differs by the striæ of the elytra being interrupted and having large but not deep punctures; the thorax is also less narrowed behind, and less sinuate on the sides.

A specimen from Washington Territory, in Mr. Ulke's collection, resembles the one described above, except that the sides of the thorax behind are still more feebly sinuate. I am unwilling, at present, to consider it as indicating another species.

CYCHRUS Fabr.

9. C. violaceus. Saturate violaceus, thorace latitudine haud breviore, postice oblique angustato, lateribus late reflexo-marginatis, elytris ventricosis, anguste marginatis, latitudine sesqui longioribus, striis confertis punctatis. Long. ·70.

Mountains of Georgia. This species at first sight resembles *C. andrewsii*, but is immediately distinguished by the thorax being more broadly margined, and by the elytra being more rounded. It resembles in miniature *C. viduus*, but the margin of the elytra, especially towards the base, is not so strongly reflexed, and the antennæ are more elongated; it seems to be the last term in the series of forms by which *C. unicolor* is related to *C. andrewsii*.

DYSCHIRIUS Bon.

10. D. hispidus. Aeneo-niger nitidus, clypeo emarginato bidentato, fronte transversim impressa, thorace latitudine breviore, ovato, elytris convexis striis antice grosse punctatis, postice obliteratis, interstitiis alternis punctis setiferis minutis uniseriatis notatis, antennis pedibusque testaceis, tibiis anticis dente inferiore acuto, superioreque obsoletissimo armatis. Long. ·12.

Western States; Mr. Ulke. Of the same size and shape as *D. setosus*, but differs by the inner striæ of the elytra being distinctly impressed, and by the punctures being still larger.

CLIVINA Latr.

11. C. texana. Elongata, rufo ferruginea nitida, epistomate truncato, dentibus utrinque duobus parvis armato, lobis oblique retractis, impressionibus frontalibus elongatis, vertice profunde sulcato et subtiliter punctato, thorace latitudine haud breviore, paulo convexo, lateribus parallelis, angulis posticis acutis dentiformibus, elytris cylindricis, striis profundis subtiliter punctulatis, interstitio 3io tripunctato, tibiis anticis tridentatis. Long. ·25.

Texas; Mr. S. B. Buckley. Belongs to the group with the front femora not toothed, and the middle tibiæ with a spine near the tip on the outer margin; the bristle-like paronychium is as long as the claws. It is intermediate between *C. impressifrons* and *C. planicollis.*

SCHIZOGENIUS Putzeys.

12. S. planulatus. Rufo-purpureus nitidus, depressus, thorace latitudine sublongiore antrorsum perparum angustato, lateribus vix rotundatis, angulis posticis minutis vix distinctis, elytris striis punctulatis, interstitiis 3io et 5to multipunctatis. Long. ·23.

New York; Mr. Ulke. A little larger than *S. lineolatus*, but as much flattened as *S. amphibius*, and differing from both by the very finely punctured elytral striæ.

LEBIA Latr.

13. L. atriceps. Capite nigro-piceo, vix rugose punctulato, thorace transverso, rufo-testaceo, ruguloso, lateribus late marginatis, elytris nigrocyaneis, subtiliter striatis, interstitiis planis, stria 3ia bipunctata; abdomine nigerrimo, metasterno sæpe, tibiis tarsis palpis antennisque piceis, his articulis tribus primis testaceis, femoribus rufo-testaceis, apice obscuris. Long. ·25—·30.

Nebraska; Mr. Ulke. Of the same size and form as *L. atriventris;* as in that species, the first three joints of the anterior tarsi of the male are obliquely dilated. The metasternum in one specimen is dark, in another rufo-testaceous.

14. L. lobulata. Pallide testacea, capite nigro, parce punctato, thorace nigro, latitudine paulo breviore, postice paulo angustato, angulis posticis subrectis, margine laterali pallido, elytris modice striatis, nigris limbo laterali angusto, macula magna lobata humerali, apiceque late pallidis. Long. ·12—·15.

Ohio and Louisiana; Mr. Ulke. Resembles at first sight *L. axillaris*, but the humeral spot, instead of being simply triangular as in that species, is lobed, with the inner and posterior outlines emarginate, resembling some of the varieties of *L. fuscata.* The head is also distinctly though sparsely punctured, as in *L. pulchella*, while in *L. axillaris* it is smooth.

PLOCHIONUS Dej.

15. P. valens. Longiusculus, rufo-piceus, nitidus, thorace latitudine vix sesqui breviore, apice paulo angustiore, lateribus marginatis rotundatis, postice obliquis, angulis posticis obtusis, elytris oblongis striatis, interstitiis paulo convexis, 3io bipunctato. Long. ·40.

Pennsylvania; Rev. D. Ziegler: Tampico, Mexico; Mr. H. Haldeman. Larger and narrower than *P. timidus*, with the thorax less transverse, and more quadrate, being only a little narrower at the apex than at the base: the sides of the thorax are not broadly depressed as in the other species, but only moderately margined.

BLECHRUS Motsch.

16. B. pusio. Elongatus, nigro-æneus, thorace latitudine haud breviore, trapezoideo, postice angustato, lateribus antice paulo rotundatis postice vix sinuatis, angulis posticis obtusis haud prominulis, elytris thorace latioribus stria suturali obsoleta notatis. Long. ·08.

Louisiana; Mr. Ulke. Much smaller than *B. lucidus*, with the sides of the thorax less rounded, and the hind angles more obtuse, than in any of our other species.

TETRAGONODERUS Dej.

17. T. undulatus. Subtus testaceo-piceus, capite thoraceque nigroviridibus subnitidis, hoc latitudine sesqui breviore, trapezoideo, lateribus antice rotundatis postice obliquis, angulis posticis obtusis haud rotundatis, planiusculo, linea dorsali profunda, basi utrinque vage impresso, elytris irregulariter nigroæneo-variegatis fascia, antica et postica interruptis pallidis relictis, antennis palpis pedibusque pallidis. Long. ·21.

Cape San Lucas, Lower California; Mr. Xántus. This species has precisely the same elytral markings as *T. fasciatus*, but the thorax is broader, flatter, and the basal impressions are much less deep.

CYMINDIS Latr.

18. C. planipennis. Rufo-picea, parce pubescens, capite parce punctato, thorace latitudine fere sesqui breviore, postice modice angustato, lateribus pallidioribus late marginatis postice haud sinuatis, angulis posticis obtusis, disco parce haud profunde punctato, basi profunde impresso magis punctato, elytris planiusculis subopacis, postice indeterminate obscuris, striis impunctatis, interstitiis disperse punctulatis, antennis pedibusque ferrugineis. Long. ·43.

New Mexico; Mr. Ulke. Resembles *C. reflexa*, but the thorax is much less strongly punctured, the hind angles are more obtuse, and the striæ of the elytra are impunctured.

19. C. hudsonica. Obscure rufo-picea, parce pubescens, capite thoraceque grosse sat dense punctatis, hoc latitudine fere sesqui breviore, postice valde angustato, lateribus late marginatis antice valde rotundatis postice sinuatis, angulis posticis rectis prominulis, elytris versus basin pallidioribus, striis punctatis, interstitiis sat dense punctatis, antennis pedibusque obscure ferrugineis. Long. ·38.

Methy Lake, and Labrador; Mr. Kennicott, and Prof. Chadbourne. A very distinct species; the lateral margin of the thorax is not so wide as in *C. reflexa*, but about the same as in *C. cribricollis.*

20. C. borealis. Nigro-picea, parce pubescens, capite thoraceque profunde haud grosse punctatis, hoc latitudine vix breviore, postice fortiter angustato, lateribus modice marginatis undulatis postice subsinuatis, angulis posticis obtusis subrotundatis, elytris cyaneo-tinctis, humeris rufescentibus, striis fortiter punctatis, interstitiis parce subtiliter subseriatim punctatis, antennis pedibusque ferrugineis. Long. ·31–·35.

North Red River, Mr. Kennicott: Nova Scotia, Mr. Ulke. Of the same shape as *C. pilosa*, with the sides of the thorax irregularly rounded in the same manner, but with the hind angles more obtuse, and slightly rounded at tip; the pubescence of the elytra is shorter, and the punctures of the intervals are smaller and almost arranged in single lines.

RHOMBODERA Reiche.

21. R. bicolor. Capite thoraceque rufo-testaceis, hoc latitudine plus sesqui breviore, postice valde angustato, et profunde impresso lateribus subangulatis marginatis, linea dorsali tenui, elytris nigris fere obsolete striatis, margine tenui laterali rufo-testaceo, abdomine antennisque piceis, pedibus rufo-testaceis. Long ·20.

Western States: Dr. Schaum. Resembles *R. pallipes* Lec., except in color.

PLATYNUS Bon. (emend. Brullé.)

22. P. caudatus. Nigro-piceus, thorace latitudine longiore, ovato, lateribus valde marginatis, basi late rotundato, angulis posticis obtusis, linea dorsali profunda, impressionibus basalibus elongatis angustis, elytris ovalibus planiusculis fortiter marginatis obsolete striatis, interstitiis 1mo, 3io, 5to et 7mo punctis parcis uniseriatim positis, apice oblique sinuatis et singulatim acuminatis; pedibus, palpis, antennisque ferrugineis, his articulo 3io sequentibus duobus vix breviore. Long. ·50.

Western States, one male; Mr. John Akhurst. Resembles *P. larvalis* Lec., but the thorax is less broadly margined, the elytra are strongly acuminate at tip, and the alternate elytral spaces are marked with an irregular series of large punctures.

23. P. dissectus. Rufo-piceus, thorace latitudine longiore, ovato, lateribus valde marginatis, basi medio emarginato utrinque obliquo, angulis posticis subrectis, elytris planiusculis fortiter marginatis obsolete striatis, interstitio 3io 4-punctato, apice oblique sinuatis; antennis articulo 3io 4to sesqui longiore. Long. ·43.

Nebraska; Dr. Hayden: Texas; Mr. S. B. Buckley. Also resembles *P. larvalis,* but the 3d joint of the antennæ is much shorter. This species by its intermediate character necessitates the union of *Rhadine* Lec. with Platynus.

24. P. opaculus. Depressus, niger, thorace latitudine breviore, antice et postice angustato, lateribus rotundatis, margine fortius reflexo piceo, angulis posticis obtusis subdentiformibus, basi utrinque late impresso, et vix punctulato, elytris planiusculis thorace fere duplo latioribus basi fere truncatis, striis angustis, interstitiis planis, 3io tripunctato; pedibus nigro-piceis, antennis capite cum thorace paulo longioribus, palpisque rufo-piceis. Long. ·50.

Ohio; Mr. Ulke. In appearance this species resembles *P. decens,* but it differs very much from that and from every other known to me by the characters given above; it is intermediate between that species and *P. cincticollis.*

25. P. clemens. Piceus, nitidus, thorace convexiusculo, subcordato, latitudine haud breviore, postice angustato, lateribus postice vix sinuatis, angulis posticis obtusis haud rotundatis, ad basin punctato et utrinque fovea parva impresso, linea dorsali vix distincta, elytris elongato-ovalibus thorace latioribus basi subtruncatis, striis antice profundis, interstitiis paulo convexis, 3io bipunctato, antennis palpis pedibusque pallidis. Long. ·32.

Nova Scotia; Mr. Ulke. Also very different from any other species seen by me; the elytra have but two dorsal punctures, the first is placed in the third stria, one-fifth from the base; the second is in the second stria about the middle; I can perceive no vestige of a third dorsal puncture in three specimens before me.

26. P. subsericeus. Cupreo-aeneus, viridi-micans, thorace latitudine vix breviore, subquadrato tenuiter marginato planiusculo, angulis posticis obtusis rotundatis, basi utrinque profunde breviter impresso et parce punctulato, elytris thorace paulo latioribus basi truncatis, opaciusculis, tenuiter striatis, interstitiis planissimis, 3io tripunctato, antennis palpisque nigris; subtus obscure aeneus. Long. ·38.

Kansas; Mr. Ulke. Related to *P. cupripennis*, but differs by the form of the thorax, as well as by the color. The opacity of the elytra gives a sericeous lustre to the surface.

27. P. crenistriatus. Longiusculus, niger nitidus, thorace ovali, latitudine paulo longiore, margine laterali angusto, ad basin utrinque fovea parva profunda impresso, linea dorsali tenui, elytris ovalibus thorace latioribus basi paulo emarginatis, striis profundis fortiter punctatis, interstitio 3io tripunctato, pedibus rufo-testaceis, antennis palpisque piceis, basi rufo-testaceis. Long. ·30.

Illinois. Of the same size and form as *P. punctiformis*, but differs by the very strongly punctured elytral striæ, and by the smaller and deeper basal impressions of the thorax.

28. P. perforatus. Capite thoraceque viridiaeneis nitidis, hoc rugoso, subrotundato latitudine fere sesqui breviore, postice paulo angustiore, margine laterali depresso postice latiore et subreflexo, impressionibus posticis latis haud profundis magis rugosis, elytris cupreo-aeneis, thorace latioribus basi truncatis, striis tenuibus punctulatis, interstitio 3io foveis 3 vel 4 magnis impressis; subtus, antennis pedibusque nigroaeneis. Long. ·30.

Methy, Hudson's Bay Territory; Mr. R. Kennicott. On the right elytron are seen four foveæ placed as in *P. 8-punctatus;* on the left are but three; from the position of the 3d I think that the normal number is four.

EVARTHRUS Lec.

29. E. torvus. Niger (mas) nitidus, thorace subcordato latitudine paulo breviore, lateribus rotundatis postice breviter sinuatis, angulis posticis rectis prominulis, basi apice vix angustiore, linea dorsali integra, basi utrinque bistriata, profunde impressa et rugosa, carina externa distincta, elytris ovalibus, striis fortiter punctatis ad apicem minus profundis. Long. ·70.

Kansas; Mr. Ulke. This species has the 8th stria not closely approximated to the marginal one, and is allied to *E. orbatus*, but differs by the much more strongly punctured elytral striæ, as well as by the form of the thorax and elytra; the former is less narrowed behind, and less strongly rounded on the sides than in *E. orbatus*,

and the elytra are less rounded on the sides in front and more obtuse behind.

PTEROSTICHUS Bon.

30. P. sphodrinus. Elongatus, nigernitidus, thorace latitudine paulo longiore, obovato, lateribus et angulis posticis tenuiter marginatis, his obtusis et rotundatis, linea dorsali vix distincta, ad basin utrinque breviter impresso, haud marginato elytris elongato-ovalibus thorace haud latioribus, striis impunctatis, interstitiis paulo convexis, humeris haud denticulatis. Long. ·47.

Nebraska; Mr. Ulke. This species is related to *P. adoxus*, but differs from that as from all our other species having no dorsal punctures, by the obtuse and rounded hind angles of the thorax; in form it is narrower than *P. adoxus*, and resembles on a large scale *P. longicollis.* The tip of the prosternum is not surrounded by a marginal line.

31. P. laetulus. I propose this name for the species formerly described by me (Journ. Acad. Nat. Sc. 2d Ser. ii. 253), as *Poecilus californicus*, from which it differs by the bright green color, and by the sides of the thorax being distinctly sinuated behind, and also by the elytra being flatter and more finely striate. Baron Chaudoir considers this species as that described by Dejean, but I have received from Count Mnizech, a species which corresponds in color and in other characters with Dejean's description, and which is quite different as will be seen by the comparison above given.

32. P. texanus. Obscure cupreo-aeneus, nitidus, thorace subquadrato antrorsum angustiore, tenue marginato, lateribus rotundatis postice haud sinuatis, angulis posticis subobtusis, basi utrinque biimpresso, impressione externa parva, elytris striis profundis obsolete punctatis, interstitio 3io postice bipunctato, antennis obscuris, articulis duobus primis ferrugineis. Long. ·55.

Texas. Of the same form as *P. chalcites*, but with the thorax somewhat broader and not at all punctured in the basal impressions, and with the elytral striae only obsoletely punctured.

33. P. splendidulus. Elongatus, supra aeneus nitidus, thorace capite parum latiore, quadrato latitudine breviore, lateribus rotundatis, postice haud sinuatis, angulis posticis obtusis, margine haud depresso, basi utrinque foveis duabus impressis, externa multo minore, elytris

tenuiter striatis, interstitiis planis, stria 2nda postice bipunctata; subtus niger, pedibus antennisque rufis, his basi haud carinatis. Long. ·25.

One female, Fort Yuma, California, very different from all our other species of the division Poecilus by the first three joints of the antennae not being carinated.

34. P. desidiosus. Elongatus, niger, nitidus, thorace latitudine haud breviore, lateribus rotundatis, postice paulo angustiore, basi truncato utrinque 1-striato, angulis posticis obtusis haud rotundatis, elytris striis profundis antice punctatis, interstitiis paulo convexis, 3io tripunctato, antennis pedibusque ferrugineis. Long. ·28.

Western States. Similar in form and sculpture to *P. femoralis*, but differs by the elytral striæ being strongly punctured, instead of feebly punctulate as in that species. The legs in two specimens now before me are of a uniform red color, while in *P. femoralis* the thighs are darker.

35. P. hudsonicus. Elongatus, niger pernitidus, thorace subcordato, latitudine haud breviore, lateribus rotundatis, postice sinuatis, angulis posticis rectis, linea dorsali tenui, basi utrinque impresso et punctato et ad angulos obsolete foveato, elytris elongato-ovalibus, parum convexis, striis antice punctulatis, interstitio 3io tri- vel quadripunctato, antennis piceis, pedibus obscure ferrugineis. Long. ·31.

Hudson's Bay Territory; Mr. Ulke. Nearly related to *P. empetricola* and several other Russian American species, but differs from all of the same division in my collection by the thorax being not wider than its length, and by the less convex elytra.

36. P. tumescens. Apterus, piceus nitidus, thorace latitudine fere sesqui breviore, lateribus valde rotundatis, postice angustato, basi truncato, fovea elongata utrinque impresso, angulis posticis obtusis haud rotundatis, elytris ovalibus convexis basi fere truncatis, striis antice fortiter punctatis, externis obliteratis, interstitio 3io tripunctato, epipleuris, antennis pedibusque piceo-ferrugineis. Long. ·33.

Louisiana; Mr. Ulke. This species is more nearly allied to *P. obscurus* and *ventralis* than to any other of our native species; it has like them but five striæ on each elytron, and the scutellar stria is absent; the 2d dorsal puncture is situated on the 2d stria as usual. It differs from the two species above named by the hind angles of the thorax being distinct and not at all rounded, but this is not sufficient to separate it from them as a distinct division of the genus.

37. P. protensus. Elongatus, niger nitidus, thorace fere trapezoideo, latitudine paulo longiore, postice angustato, lateribus late rotundatis, fortiter marginatis, angulis posticis obtusis et rotundatis haud carinatis, linea dorsali tenui, impressionibus transversis profundis, basi utrinque late foveato et parce punctulato, elytris striis valde profundis, interstitiis angustis convexis, stria 2nda postice bipunctata, humeris haud dentatis. Long. ·68.

Pennsylvania; Mr. Ulke. Belongs to the same group with *P. stygicus*, *coracinus*, &c., but differs by the hind angles of the thorax not being carinated; the basal impressions are consequently single as in *P. moestus*, which, however, is a broader insect with less deep elytral striæ, and four dorsal punctures.

DICAELUS Bon.

38. D. turbulentus. Elongatus, niger opacus, thorace latitudine breviore, lateribus postice fere parallelis, antice rotundatis, margine late sensim reflexo, basi medio late emarginato, utrinque oblique impresso, elytris thorace parum latioribus, interstitiis convexis, 7mo ultra trientem carinato. Long. ·85—1·0.

Missouri; Prof. Agassiz. Larger than *D. reflexus*, with the sides of the thorax quite as much reflexed, but very different by the body being entirely without lustre.

ANOMOGLOSSUS Chaud.

39. A. amoenus.

Baron Chaudoir has retained this species in Chlænius, but it seems to me more naturally placed in the present genus. The mentum tooth is not absolutely wanting as in the other two species, but is very small, and not prominent and emarginate as in the other species of Chlænius; the labrum is quite distinctly emarginate, though less so than in *A. emarginatus*.

CHLAENIUS Bon.

40. C. sparsus. Supra nigro-cyaneus, griseo-pubescens, capite thoraceque viridi-tinctis, occipite frontisque lateribus punctatis; thorace subquadrato, latitudine vix breviore, lateribus late rotundatis, angulis anticis deflexis, posticis subrectis, parce grosse punctato, basi utrinque vage impresso, linea dorsali tenui, elytris ovalibus thorace latioribus, striis tenuibus punctulatis, interstitiis parce punctulatis; subtus fusco-niger, antennis pedibusque ferrugineis, genubus tarsisque infuscatis. Long. ·53—·58.

Cape San Lucas, Lower California: Mr. Xántus. The third joint of the antennæ is one-half longer than the fourth, as in *C. cumatilis*, from which this species differs by the form of the thorax and by the color.

OODES Bon.

41. O. fluvialis. Elongato-ovalis, niger nitidus, thorace latitudine paulo breviore, ante medium fortiter angustato, lateribus magis rotundatis, angulis posticis subrectis, elytris latitudine sesqui longioribus, convexis, striis punctulatis, interstitiis planis, 3io bipunctato, metasterno sat dense punctato. Long. ·50; lat. ·20.

Canada and Western States. Much narrower and more convex than *O. americanus*, with the sides of the thorax almost parallel behind, converging only in front of the middle. The sculpture beneath is just as in *O. americanus*. A specimen from Canada is still narrower and more convex, but as there are evidences of distortion about the specimen I consider the difference as accidental.

Mr. Benj. D. Walsh informs me that this species is found quite frequently in the sloughs of the Mississippi River, near Rock Island, swimming freely in the water.

42. O. texanus. Elongato-ovalis, nigro-æneus, nitidus, thorace latitudine haud breviore, fere a basi antrorsum fortiter angustato, lateribus modice rotundatis, elytris latitudine haud sesqui longioribus, striis punctatis, 7ma obliterata, interstitio tertio bipunctato, metasterno abdominisque basi rude punctatis. Long. ·45; lat. ·18.

Texas: Mr. S. B. Buckley. Narrower and flatter than *O. 14-striatus*, with the striæ of the elytra finer and quite distinctly punctured.

CRATOGNATHUS Dej.

43. C. alternatus. Piceus nitidus, thorace capite paulo latiore, latitudine fere sesqui breviore, subcordato postice angustato, lateribus rotundatis setigeris postice subsinuatis, angulis posticis rectis, basi utrinque foveato, elytris convexis, striis profundis, interstitiis 1mo 3io 5to 7mo et 9no punctis setigeris parcis fere uniseriatim digestis, antennis, labro, palpis pedibusque rufo-testaceis. Long. ·42.

Arkansas; Mr. Ulke. In *C. setosus* all the intervals of the elytra are furnished with setigerous punctures; in *C. cordatus* they are all without punctures.

DISCODERUS Lec.

44. D. amoenus. Elongato-ovalis, capite thoraceque rufo-piceis, hoc rotundato, latitudine paulo breviore, ad basin utrinque impresso et parce subtiliter punctato, elytris obscure cyaneis nitidissimis, striis profundis, 2nda 5ta et 7ma punctis pluribus parvis notatis; subtus rufo-piceus, antennis pedibusque dilutioribus. Long. ·33.

New Mexico; Mr. Ulke. A very distinct and beautiful species.

ANISODACTYLUS Dej.

45. A. punctulatus. Oblongo-ovalis, niger nitidus, thorace subquadrato, latitudine breviore antice subangustato, lateribus rotundatis postice subexplanatis, angulis posticis obtusis rotundatis, ad basin utrinque subtiliter punctulato et vage foveato, elytris stria 2nda postice puncto impresso, antennis palpisque rufo-piceis, illis articulo 1mo dilutiore. Long. ·43.

Middle States; not rare. This species nearly resembles *A. nigerrimus*, but the sides of the thorax are less rounded, and the basal impressions are deeper and more punctulate. The elytra are moderately sinuate near the tip as in *A. nigerrimus*, and the terminal spur of the front tibiæ is slightly dilated each side towards the base.

46. A. furvus. Oblongo-ovalis, (femina) fere opacus, thorace latitudine breviore antrorsum sensim angustato, lateribus rotundatis postice explanatis cum basi dense punctulatis, angulis posticis obtusis rotundatis, basi utrinque late haud profunde impresso, elytris stria 2nda postice unipunctata, ad apicem vix sinuatis, antennis piceis, articulo primo palpisque rufo-piceis. Long. ·48.

One female from the upper part of Georgia. Resembles in appearance *A. carbonarius*, but the sides of the thorax are less widely depressed, and the terminal spur of the anterior tibiæ is not tricuspid, but only slightly dilated on the sides. The elytra are less sinuate towards the tip than in any of the neighboring species.

47. A. harrisii. Oblongo-ovalis, niger subnitidus, thorace latitudine breviore antice subangustato, lateribus rotundatis postice late depressis, cum basi subtiliter punctatis, angulis posticis obtusis rotundatis, basi utrinque vage impresso, elytris stria 2nda postice unipunctata, antennis piceis, articulo primo subtus, palpisque rufo-piceis. Long. ·45.

Middle and Eastern States. This species was sent to me by Dr.

Harris as *A. agricola;* what I consider as Say's species has the hind angles of the thorax obtuse but not rounded. The present species is readily known among those with rounded angles by the more strongly depressed and punctured sides of the thorax. The elytra are distinctly sinuate near the tip, and the terminal spur of the front tibiæ is slightly dilated.*

48. A. rudis. Elongatus, nigro-piceus nitidus subaenescens, parce breviter pubescens, capite utrinque punctato, thorace subcordato, latitudine vix breviore, lateribus late rotundatis postice subsinuatis, angulis posticis rectis, antice et postice grosse punctato, ad basin utrinque impresso, elytris interstitiis 2ndo 4to et 6to fortiter subbiseriatim punctatis, externis duabus disperse punctatis, 1mo et 3io punctis pluribus prope strias sitis, antennis nigro-piceis, basi rufescentibus. Long. ·40.

California, one male. Of the same size and shape as *A. alternans*, but differs by the much coarser punctures; as in the other species of this section, having the alternate intervals of the elytra punctured, the elytra are strongly sinuate near the tip, but in the present species the sutural angle is not rounded. The terminal spur of the front tibiæ is dilated each side into a very distinct tooth, almost as in the first and second sections of the genus.

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* The black species of Anisodactylus inhabiting the eastern slope of our territory, and belonging to the present section of the genus, may be readily distinguished by the following table; in all of them the terminal spur of the front tibiæ is but slightly dilated each side.

A. Hind angles of thorax obtuse and rounded;
Sides of thorax scarcely depressed behind;
Base of thorax scarcely impressed or punctured. 1. NIGERRIMUS.
Base of thorax punctulate and impressed. 2. PUNCTULATUS.
Sides of thorax distinctly depressed and together with the base punctured;
Elytra opaque, not sinuate towards the tip. 3. FURVUS.
Elytra not opaque, distinctly sinuate near the tip. 4. HARRISII.
B. Hind angles of thorax obtuse, not at all rounded;
Thorax wider and less convex, with the sides more widely depressed. 5. MELANOPUS.
Thorax more convex, less transverse with the depressed margin narrower;
Hind angles of thorax quite obtuse. 6. NIGRITA.
Hind angles of thorax nearly rectangular. 7. AGRICOLA.

EURYTRICHUS Lec.

49. E. flebilis. Oblongus, nigro-piceus subnitidus, thorace latitudine plus sesqui breviore antice posticeque æqualiter angustato, lateribus rotundatis postice obliquis, angulis posticis obtusis haud rotundatis, ad basin utrinque leviter impresso, elytris thorace paulo latioribus, tenuiter striatis, stria 2nda postice unipunctata; antennis palpis pedibusque piceo-rufis. Long. ·35—·40.

Cape San Lucas, Lower California; Mr. Xántus. Quite distinct from our other species by the form of the thorax; the sides behind are scarcely perceptibly flattened.

GYNANDROTARSUS Ferté.

50. G. opaculus. Oblongo-ovalis fere depressus, niger, thorace latitudine breviore antice paulo angustato, lateribus late rotundatis postice paulo explanatis, angulis posticis rotundatis, elytris opacis, apice vix sinuatis, interstitiis 3io 5to et 7mo postice punctis pluribus impresso. Long. ·48.

One female, from Texas; Mr. Ulke. This species resembles to a remarkable degree *Anisodactylus ellipticus*, but is less convex and less shining; the first joint of the front tarsi is longer than the two following, which are equal in size, and about twice their width; the terminal spur of the anterior tibiæ is broken, but is evidently dilated into a large tooth on the outer side, but whether there is a corresponding tooth on the inner margin I cannot determine. The first joint of the front tarsi does not extend under the second as in *G. harpaloides.*

The last named species has a very extensive range; a female was collected by Mr. Kennicott, on the Red River of the North, and a male was given me by Dr. Schaum, as found in Louisiana; the latter can in no respect be separated from Anisodactylus; the middle and front tarsi are broadly dilated, and covered with a dense brush of hairs beneath, and the first joint is much narrower than the others; the terminal spur of the front tibiæ is tricuspid.

BRADYCELLUS Er.

51. B. linearis. Valde elongatus, nigro-piceus, pernitidus, thorace latitudine multo longiore, postice angustato, lateribus postice subsinuatis, angulis posticis rectis, apice et basi indeterminate rufescente et parce punctato, linea dorsali profunda, postice utrinque profunde impresso, elytris parallelis thorace paulo latioribus, sutura rufescente,

striis profundis punctulatis, 2nda postice unipunctata ; antennis fuscis, basi, palpis pedibusque flavo-testaceis. Long. ·20.

Pennsylvania; Dr. George H. Horn: Wisconsin; Mr. Ulke. This singular species is remarkable for the extreme narrowness of the body, which is not wider in proportion than in a Clivina.

HARPALUS Latr.

52. H. (Selenophorus) fatuus. Elongato-oblongus, æneus nitidus, thorace latitudine sesqui breviore, antice posticeque angustato, lateribus rotundatis postice haud explanatis, angulis posticis obtusis rotundatis, basi utrinque foveato, elytris tenuiter striatis, interstitiis 3io 5to et 7mo punctis pluribus notatis, antennis palpis pedibusque rufotestaceis. Long. ·22.

South Carolina to Texas. Differs from all of our other small brassy species by the thorax being more distinctly narrowed behind, and by the less robust form.

53. H. innocuus. Robustus, oblongus, niger subnitidus, thorace latitudine breviore, subquadrato, lateribus antice late rotundatis, postice subrectis et paulo explanatis, basi recta, angulis posticis fere rectis, apice rotundatis, ad basin subtiliter punctâto, et utrinque late foveato, elytris ovalibus thorace latioribus, tenuiter striatis, stria 2nda postice unipunctata, ad apicem vix sinuatis, antennis palpis tibiis tarsisque obscure ferrugineis. Long. ·37.

One female, Marquette, Lake Superior. A very distinct species from all others in my collection.

STENOLOPHUS Dej.

54. S. rotundatus. Piceus pernitidus, thorace latitudine paulo breviore, rotundato apice emarginato, basi subtruncato, et utrinque fovea parva notato, elytris thorace vix latioribus, basi truncatis, striis profundis, scutellari brevi, interstitio 3io postice unipunctato, suturâ rufescente ; antennis pedibusque testaceis. Long. ·17.

Louisiana; Dr. Schaum. This species resembles in form the larger varieties of *S. conjunctus*, but the thorax is less transverse, and the elytral striæ are much deeper.

55. S. hydropicus. Piceus nitidus, capite magno, thorace ovato capite vix latiore, latitudine paulo breviore, postice angustato, angulis posticis obtusis subrotundatis, basi utrinque late impresso et obsolete punctato elytris ovalibus thorace latioribus, modice striatis, stria scu-

tellari distincta, 2nda postice unipunctata, ad apicem oblique subtruncatis; antennis crassiusculis, palpis pedibusque testaceis. Long. ·11.

New York; May, under stones. This species is sufficiently distinguished at first sight from all our other species by the large head and oval elytra. The anterior tarsi of the male are scarcely dilated.

56. S carus. Rufo-piceus pernitidus, capite piceo, thorace subquadrato, latitudine paulo breviore, postice angustato, angulis posticis obtusis rotundatis, basi utrinque late impresso et obsolete punctato, elytris cyaneo-micantibus, thorace latioribus, basi truncatis, apice oblique subsinuatis, striis mediocribus, scutellari brevi, 2nda postice unipunctata, epipleuris palpis antennis pedibusque testaceis. Long. ·12.

Hudson's Bay Territory and Illinois; Mr. Ulke. Quite distinct from all of our other species and readily distinguished by the characters above given.

PATROBUS Dej.

57. P. rufipes. Niger nitidus, thorace subcordato, latitudine paulo breviore, postice paulo angustato, lateribus fortiter marginatis, antice rotundatis postice obliquis et subsinuatis, angulis posticis rectis subcarinatis, linea dorsali distincta impressione transversa antica profunda, ad basin utrinque fovea magna profunda punctata impresso, elytris elongato-ovatis thorace latioribus, striis antice punctatis postice minus impressis, interstitio 3io quadripunctato, antennis rufo-piceis, pedibus ferrugineis. Long. ·40.

North Red River; Mr. R. Kennicott. A little more robust than *P. fossifrons*, with the sides of the thorax less sinuate near the base, with the legs red instead of brownish-black; the elytral striæ appear to be less finely punctured.

ANOPHTHALMUS Sturm.

58. A. angulatus. Pallide piceo-rufus nitidus, thorace latitudine longiore subovato, postice angustato et lateribus sinuato, angulis posticis rectis prominulis, linea dorsali profunda, ad basin utrinque profunde impresso, elytris ovalibus ad basin late rotundatis, striis antice punctulatis postice fere obliteratis, interstitio 3io punctis tribus majusculis impresso. Long. ·19.

Mammoth Cave, Kentucky; Mr. J. Ph. Wild. This species is much smaller than *A. tellkampfii*, and is readily recognized by the prominent hind angles of the thorax and by the elytra being much less obliquely rounded at base and more deeply striate.

BEMBIDIUM Latr.

59. B. recticolle. Depressum, nigro-aeneum nitidum, thorace quadrato latitudine vix breviore, lateribus antice rotundatis postice fere parallelis, angulis posticis rectis subtiliter carinatis, linea dorsali tenui, impressionibus transversis profundis, fovea utrinque basali bistriata et parce punctata; elytris elongato-ovalibus, ad basin emarginatis, striis dense punctatis, 3ia bipunctata. Long. ·19.

New Mexico; Mr. Ulke. This species is allied to *B. salebratum* and *quadrulum;* from the first it differs by the square thorax, and from the second by the more deeply impressed and more densely punctured elytral striæ.

60. B. nebraskense. Depressum, nigrum pernitidum, thorace latitudine plus sesqui breviore postice angustato, lateribus antice magis rotundatis postice obliquis, angulis posticis obtusis haud rotundatis carinatis, linea dorsali tenui, impressionibus transversis profundis, ad basin punctato et utrinque profunde foveato; elytris striis tenuibus punctulatis, externis fere obliteratis, tertia bipunctata, basi late emarginatis, humeris rotundatis. Long. ·18.

Nebraska, near the Rocky Mountains; a specimen kindly given me by Mr. Ulke. This species belongs to the same section with *B. complanulum*, *incertum*, &c., from Russian America, but differs from all others in my collection by the elytral striæ being finely punctulate, and by the thorax being more narrowed behind, with the basal angles distinctly obtuse. In appearance it bears a strong resemblance to a *Blechrus.*

61. B. obtusangulum. Supra obscure aeneum nitidum, thorace subconvexo latitudine breviore, postice vix angustiore, lateribus late rotundatis, angulis posticis obtusis vix brevissime carinatis, linea dorsali tenui, impressione transversa antica mediocri, postica profunda, ad basin utrinque breviter bistriato et parce punctato, elytris oblongo-ovalibus, subdepressis, tenuiter striato-punctatis, interstitio 3io bipunctato; subtus, antennis pedibusque aeneo-nigris. Long. ·20.

Nebraska, near the Rocky Mountains; Mr. Ulke. A very distinct species, belonging to the section Notaphus; the striæ are all entire, though the outer ones are less impressed towards the tip.

62. B. morulum. Convexum, aeneo-nigrum nitidum, thorace latitudine sesqui breviore postice angustato, lateribus rotundatis, angulis posticis obtusis vix brevissime carinatis, linea dorsali obsoleta, impressione transversa antica mediocri, postica profunda, ad basin utrinque

foveato, in fovea breviter bistriato, elytris thorace paulo latioribus, oblongo-ovalibus, striis fortius punctatis, ad apicem obliteratis, interstitio 3io bipunctato, antennis nigris articulo 1mo pedibusque piceo-tinctis. Long. ·13.

Hudson's Bay Territory; Mr. Ulke. A singular little species, which I was at first inclined to class with *B. salebratum*, *quadrulum*, &c., but the two dorsal punctures are placed upon the third interval, and are not connected with the third stria. I have therefore, for want of a better place, included it in Notaphus, with several other species in which the outer striæ of the elytra are somewhat obliterated towards the tip.

TACHYS Ziegler.

63. T. albipes. Nigro-piceus nitidus, thorace convexo latitudine fere duplo breviore, trapezoideo postice modice angustato, angulis posticis obtusis, ante basin profunda transversim impresso, elytris ovatis, thorace plus sesqui latioribus, laete irescentibus, bipunctatis, versus suturam obsolete striatis, stria suturali postice profunda; antennis testaceis, pedibus pallidis. Long. ·13.

Louisiana; Dr. Schaum. This species is as large as *T. proximus*, but more robust, and cannot be confounded with any other of our species.

64. T. ventricosus. Piceus nitidus, capite thoraceque rufescentibus, hoc minus convexo, latitudine duplo breviore, trapezoideo postice modice angustato, angulis posticis obtusis paulo prominulis, ante basin profunde transversim impresso, elytris ovatis thorace duplo latioribus, bipunctatis, versus suturam obsolete striatis, stria suturali postice profunda; antennis rufo-testaceis, pedibus flavo-testaceis. Long. ·10.

Louisiana; Dr. Schaum. Smaller than the preceding, and equally robust, but with the thorax more transverse and less convex, and very faintly sinuated on the sides just by the base, so that the hind angles become slightly prominent.

65. T. capax. Convexus, niger nitidissimus, thorace latitudine sesqui breviore, lateribus valde rotundatis, postice breviter sinuatis, angulis posticis rectis brevissime carinatis, linea dorsali mediocri, ante basin tripunctato et utrinque foveato, elytris oblongo-ovalibus, thorace paulo latioribus, bipunctatis, stria suturali profunda integra, 2nda versus apicem obliterata, 3ia parum distincta, utrinque obliterata; antennis rufo-piceis, basi palpis pedibusque rufo-testaceis. Long. ·13.

Washington, District of Columbia; Mr. Ulke. Of the same size as *T. tripunctatus* and *vivax;* more convex than the first, and with the sides of the thorax much more rounded than the second.

CNEMIDOTUS Ill.

66. C. muticus. Breviter ovatus utrinque obtuse attenuatus, convexus, flavo-testaceus, thorace grosse punctato, ad basin maculis duabus nigris ornato, elytris griseo-testaceis, punctis nigris antice grossis postice subtilioribus striatis, maculis indeterminatis nigris, apice subtruncatis; coxis posticis margine postico late rotundato. Long. ·16.

Middle and Western States. Precisely similar in form and sculpture to *C.* 12-*punctatus*, but differs by the hind coxæ not having a prominent angle on the hind margin; the spots of the elytra are very badly defined in all my specimens, but appear to be situated as in *C.* 12-*punctatus*; the elytra are not sinuate near the tip, but only very slightly and obliquely truncate.

67. C. edentulus. Ovatus convexus, postice minus obtuse attenuatus, flavo-testaceus, thorace grosse punctato, ad basin maculis duabus nigris notato, elytris griseo-testaceis, sicut in priore nigro-punctatis, maculis utrinque sex communique subapicali nigris, apice subsinuatis; coxis posticis margine postico late rotundato. Long. ·16.

Kanzas, near the Rocky Mountains. Not so broad as the preceding species, with the hind extremity nearly acute, and the elytra obliquely subsinuate at tip, as in *C.* 12-*punctatus*; the spots are well defined and arranged as in that species.

HYDROPORUS Clairv.

68. H. rotundatus. Elongato-ovalis, pallidus opacus, confertissime subtiliter punctulatus, thorace lateribus valde rotundatis, cum elytris angulum formante, margine tenui antice et postico, maculisque duabus basalibus nigris, elytris apice oblique truncatis et denticulo externo armatis, sutura, linea subsuturali interrupta, tribus utrinque dorsalibus, guttisque duabus internis, et tribus externis ornatis. Long. ·19.

Toronto, Canada; collected by Mr. Couper. This species resembles in form several European ones, but is quite different in its markings. The suture is black: very near to the suture is a narrow black line reaching neither base nor tip, and interrupted at the second third of its length: on each elytron are seen besides three narrow black lines reaching neither base nor tip, the outer one being abbreviated about the 2d third, and the inner one interrupted behind; on the inside of the inner line and joined to it are two black spots, the first about one-third from the base, the second more than one-third from the tip; outside of the third line are three spots, the first angulated, the second curved and touching the tip of the third line, the third parallel with the margin, and touching the tip of the second line.

CELINA Aubé.

69. C. grossula. Piceo-rufa nitida, elytris obscuris haud dense punctatis, punctisque majoribus triseriatim digestis, serie interna evidentiore, apice conjunctim breviter acuminatis. Long. ·22.

Louisiana; a specimen kindly given me by Mr. Ulke. This species is very much larger than *C. angustata,* but agrees with it in form, color, and sculpture; the upper surface is, however, a little more convex, and the sides of the thorax slightly less rounded.

COLPIUS Lec.

Corpus rotundatum, convexum, postice acuminatum; antennæ filiformes; palpi maxillares articulo ultimo fusiformi acuto, labiales articulo ultimo elongato triangulari apice emarginato; prosternum apice rotundatum, postice truncatum, concavum lateribus et apice acute marginatum; tibiæ anticæ latiusculæ, apice unco elongato extrorsum armatæ, intermediæ simplices, posticæ longe ciliatæ; tarsi articulo 1mo elongato, sequentibus tribus parvis æqualibus, ultimo præcedentes tres æquante, unguiculis parvis æqualibus, antici maris articulis tribus dilatatis, primo maximo, triangulari.

This curious genus has the form of the convex rounded Hydroporus, such as *H. cuspidatus.*

70. C. inflatus. Globosus, postice obtuse acuminatus, niger opacus, dense punctulatus, et parcius rugosus et punctatus, capite macula magna frontali rufo-picea, thorace linea subapicali transversa insculpto; ore, antennis pedibusque piceo-ferrugineis. Long. ·14.

Louisiana; I have also a specimen said to have been found at New York. The genus was first indicated by me in my Classification of Coleoptera p. 40.

HYDROCANTHUS Say.

71. H. nanulus. Elongato-ovalis, postice paulo magis attenuatus, rufo-testaceus nitidus, impunctatus, elytris paulo saturatioribus, antennis pedibusque pallidioribus. Long. ·05.

Louisiana; Dr. Schaum. The very small size at once distinguishes this from all other species of the genus; it is more regularly oval, and less convex than the others.

LACCOPHILUS Leach.

72. L. gentilis. Elongato-ovalis, postice sensim magis attenuatus, testaceus nitidus, vix subtilissime punctulatus, thorace ad basin paulo infuscato, elytris piceis, sutura antice rufescente, epipleuris, fascia interrupta ad quadrantem, maculis duabus lateralibus apiceque testaceis; abdomine infuscato. Long. ·14.

Louisiana; Mr. Wapler. This beautiful little species is very distinct from all others found in our territory. The transverse band is situated about one-fourth from the base, and consists of a triangular spot upon each elytron, wider towards the suture; the first marginal spot is a little before the middle, and the second about two-fifths from the tip, which, with the whole of the lateral margin, is pale.

HYDATICUS Leach.

73. H. piceus. Ovalis, modice convexus, rufo-piceus subnitidus, versus latera pallidior, thorace subtilissime rugoso et punctulato, versus basin utrinque punctis paucis linea digestis, elytris subtilissime punctulatis, punctisque solitis fere obsoletis; subtus niger, pedibus anterioribus piceo-testaceis. Long. ·50.

Middle States and Canada. Broader and less regularly elliptical than *H. bimarginatus.* The color above is reddish brown, paler at the margins of the thorax, the sides of the elytra, and in front of the eyes; the organs of the mouth, the anterior and middle legs are pale brown; the trunk and abdomen beneath are nearly black, and the hind legs are dark brown.

GYRETES Brullé.

74. G. compressus. Elongato-ovalis, valde convexus, niger nitidissimus, thoracis lateribus elytrorumque margine latiusculo punctulatis pubescentibus, elytris apice oblique truncatis subsinuatis, angulo externo obtuso; subtus niger, pedibus obscure piceo-rufis. Long. ·25.

Quincy, Illinois; Mr. Willcox. Narrower than *G. sinuatus,* and readily distinguished from all the other species of the genus heretofore described, except the South American *G. bidens,* by the inflexed margin of the thorax and elytra being black; from the last named species it differs by the outer apical of the elytra not being acute and prolonged.

BEROSUS Leach.

75. B. pugnax. Elongato-ovatus, convexus, supra testaceus nitidus, capite punctulato laete aeneo, thorace punctato, medio infuscato, elytris striis confertim punctatis, interstitiis vix convexis fortiter punctatis, maculis pluribus nigris ornatis, apice singulatim emarginatis et bispinosis, spina exteriore longiore. Long. ·24.

Louisiana; Mr. Ulke. The black spots of the elytra are arranged thus: a humeral one; then two on each elytron forming with those of the other side a transverse band convex behind; then an undulated oblique band formed of small spots, and finally two small spots, one on the second and the other on the fourth interstice, the inner one being the more posterior; the sutural spine is very short, the outer one long. The body beneath is black; the palpi, antennæ, and legs are pale testaceous.

CYLLIDIUM Er.

76. C. atrum. Hemisphaericum, nigrum nitidum, thorace lateribus piceis, elytris parce punctulatis, stria suturali profunda, versus basin obliterata, antennis pedibusque piceis. Long. ·09.

New York. Resembles in color and sculpture *C. nigrellum*, from the Colorado Valley of California, but is larger; the elytra are, perhaps, more strongly punctulate.

PHILHYDRUS Sol.

77. P. simplex. Longior, ellipticus convexus, piceo-testaceus nitidus, capite thoraceque punctulatis, elytris fusco-lineatis minus subtiliter punctulatis, stria suturali profunda antice obliterata, prosterno haud carinato, mesosterno vix carinato; subtus nigro-piceus, pedibus rufo-piceis. Long. ·11.

Louisiana; Mr. Ulke. Differs from all our other species having the mesosternum feebly carinate by the small size. In shape it resembles *P. nebulosus*, but is very much smaller.

78. P. consors. Longiusculus, ellipticus convexus, piceo-niger nitidus, subtiliter dense punctatus, thorace latitudine duplo breviore, lateribus obliquis paulo rotundatis, angulis omnibus rotundatis, elytris punctis majoribus serie quadruplici minus distincte digestis, stria suturali paulo ante medium obliterata; antennis rufo-piceis. Long. ·29–·32.

Louisiana; Mr. Ulke. The prosternum is not carinated, the mesosternum has an elevated plate, pointed at the extremity.

This species resembles in characters *P. cinctus*, but is larger, and the margins of the body are not at all disposed to be brown as in that species.

HYDROBIUS Leach.

79. H. despectus. Ovalis, valde convexus postice subgibbosus, nigroaeneus subnitidus, thorace alutaceo, versus latera picescente, elytris lateribus subtiliter punctatis, dorso fere laevibus, stria suturali ante medium obliterata; subtus rufo-piceus. Long. ·09.

Middle and Eastern States. More brassy and much more convex than *H. subcupreus*, and readily distinguished by the elytra being nearly smooth at the middle, instead of being equably punctured as in the other species.

CATOPS Fabr.

80. C. brachyderus. Breviter ovatus, convexus antice valde obtusus, postice attenuatus, castaneus, helvo-sericeus, thorace latitudine plus triplo breviore, antrorsum valde angustato et lateribus rotundato, angulis posticis acutis postice paulo prolongatis, subtiliter rugose punctulato, elytris a basi oblique angustatis, transversim strigosis, stria suturali antice abbreviata; antennis thorace brevioribus, sensim paulo clavatis. Long. ·12.

Nova Scotia; Mr. Ulke. A species remarkable for the great breadth and obtuseness of the front part of the body. The mesosternum is carinate.

HYDNOBIUS Schmidt.

81. H. substriatus. Ovalis, convexus, piceo-ferrugineus, nitidus, thorace subtiliter punctato, lateribus rotundatis, antice angustato, angulis posticis valde obtusis, elytris pallidioribus minus subtiliter punctatis, punctis seriebus confertis digestis; antennarum articulo 7mo et 9no æqualibus, intermedio triplo latioribus. Long. ·10.

Mas femoribus posticis dente maximo acuto versus apicem armatis.

Nova Scotia and New York; Mr. Ulke. It is evident that the rows of punctures on the elytra represent alternately striæ and interstitial punctures, but they are of equal size and equally dense.

AMPHICYLLIS Er.

82. A. picipennis. Rotundato-ovalis, convexa, rufo-picea nitida, thorace punctulato, a basi sensim angustato, angulis posticis obtusis,

elytris paulo pallidioribus et fortius punctulatis, punctis hic inde striatim digestis, stria suturali ad medium antice obliterata; antennarum clava fusca, scapo haud breviore. Long. ·08.

Northern New York; Mr. Ulke. The genus Amphicyllis differs from Liodes and Agathidium by the club of the antennæ being composed of four joints. The body is not contractile into a ball.

CLAMBUS Fischer.

83. **C. puberulus.** Ovatus, convexus, rufo-piceus nitidus, subtiliter sat dense helvo-pubescens, subtiliter punctulatus, subtus piceus, antennis pedibusque testaceis. Long. ·03.

Pennsylvania, rare. Our other species, *C. gibbulus*, is very shining, black and entirely glabrous.

MICROSTEMMA Motsch.

84. **M. grossa.** Castanea nitida, longe pubescens, thorace ovato convexo, latitudine haud breviore, postice paulo angustato, pone medium punctato, ante basin utrinque bifoveato, elytris elongato-ovalibus valde convexis, thorace haud sesqui latioribus, subtiliter parce punctatis. Long. ·10.

Mobile, Alabama; Col. Motschulsky. The antennæ are half as long as the body; the first joint is one-half longer than the second, which is joined to it at an angle; the 3d and 4th joints are each equal to the 2d; the 5th is nearly one-half longer; the three following are shorter and equal; the 9th and 10th are each as long as the two preceding, and twice as thick, and the 11th still longer, forming an elongate club; the femora are considerably clubbed.

The genus Microstemma is easily distinguished by the antennæ being geniculate with the first joint not elongated.

85. **M. motschulskii.** Castanea nitida, longe flavo-pubescens, thorace ovato convexo, latitudine haud breviore, postice paulo angustato, ante basin utrinque bifoveato, elytris elongato-ovalibus valde convexis, thorace vix sesqui latioribus, subtiliter haud dense punctatis. Long. ·07.

Mobile, Alabama; Col. Motschulsky. Smaller than the preceding, with the thorax not punctured behind, and the elytra more obviously punctured.

SCYDMAENUS Latr.

86. S. pyramidalis. Elongatus, rufo-piceus, tenuiter pubescens, thorace longiusculo, antrorsum angustato lateribus vix rotundatis, ante basin linea transversa impresso, elytris basi unifoveatis, obsolete punctulatis; antennis sensim fortius clavatis, articulo 8vo praecedente sesqui majore. Long. ·03.

Mobile, Alabama; Col. Motschulsky. This small species belongs to the group having the last four joints of the antennæ enlarged, and the thorax forming a very obtuse angle with the elytra, but is much smaller than *S. obscurellus* or *S. clavatus*, and differs moreover by the 8th joint of the antennæ being intermediate in size between the 7th and 9th, instead of being nearly equal to the 9th.

ADRANES Lec.

87. A. coecus Lec.

A male of this very rare species, found in Illinois, and sent me by Dr. C. A. Helmuth, differs from the female found by me in Georgia, by being much smaller and of a paler color; the middle thighs are armed beneath near the base with a long acute spine, and the middle tibiæ are broadly sinuous at the inner margin.

CIRCOCERUS Motsch.

88. C. batrisoides. Rufo-castaneus, flavo-pubescens, fronte canaliculata et transversim impressa, vertice foveis duabus parvis impresso, thorace ovato convexo, obsolete punctulato, ante basin fovea parva impresso lineaque transversa arcuata parum distincta, elytris subtiliter punctatis, basi foveatis et breviter striatis, stria suturali postice obsoleta, abdomine subtiliter punctato. Long. ·07.

New Orleans; Col. Motschulsky. The shape of this insect is that of an elongated Bryaxis; the antennæ are nearly half as long as the body; the first and second joints are thicker than the following, the joints 3–8 are nearly equal and scarcely as long as their width, the 9th and 10th are gradually a little wider, but scarcely longer, the 11th is very large, oval, somewhat compressed, and equal in length to one-half of the preceding portion of the antennæ; the penultimate joint of the maxillary palpi is very small, the last joint is very long and cylindrical. The abdomen is moderately margined, and the claws of the tarsi are equal.

EUPSENIUS Lec.

89. Eu. rufus. Saturate rufo-ferrugineus, nitidus, laevissimus, capite bifoveato, thorace postice paulo angustato, linea basali medio angulata, postice in ipso latere fovea magna impresso, elytris basi utrinque bifoveatis. Long. ·055.

Mobile, Alabama; Col. Motschulsky. Larger than *Eu. glaber*, but not different in characters except that the thorax is less narrowed behind, and less sinuate on the sides near the base.

TRIMIUM Aubé.

90. T. americanum. Elongatum, rufo-testaceum, fere glabrum, capite haud punctato, bifoveato, foveis linea profunda angulata connexis, thorace cordato, postice sulco transverso angulato insculpto, elytris basi utrinque fovea oblonga impressis, stria suturali profunda; palporum maxillarium articulo ultimo ovali. Long. ·03.

Mobile, Alabama; Col. Motschulsky. Quite distinct by the form of the thorax from our other species; the basal foveæ are not obvious, but the transverse groove is quite deep.

EUPLECTUS Leach.

91. Eu. cavifrons. Testaceus, parum pubescens, capite sulcis profundis antice conjunctis, vertice elevato obsolete foveato, thorace fovea media elongata discreta, posticis sulco connexis. Long. ·04–·045.

New Orleans; Dr. Schaum and Col. Motschulsky. Nearly related to *Eu. difficilis*, but the front is more concave at the junction of the impressions, and the vertex is scarcely foveate; the elytra are also less flattened.

92. Eu. ruficeps. Piceo-rufus, vix pubescens, capite thoraceque dilutioribus, illo fortiter bifoveato antice vix impresso, hoc subquadrato, foveis posticis magnis linea arcuata connexis, elytris fovea basali striaque suturali profundis, pedibus flavo-testaceis. Long. ·02.

New Orleans; Col. Motschulsky. A very distinct species of the same size as *Eu. pumilus*.

PHYTOSUS Curtis.

93. P. opacus. Linearis depressus, testaceus opacus, capite thorace elytrisque subtilissime alutaceis, obsolete parce punctulatis et vix conspicue pubescentibus; thorace obsolete canaliculato, elytris thorace paulo brevioribus; abdomine subtiliter punctato, segmento antepenultimo nigricante. Long. ·13.

San Diego, California; on the shores of the ocean. This species resembles so closely the figure given by Duval of the European *P. nigriventris*, that it is scarcely necessary to add anything to the above description, to enable it to be readily recognized. The spines of the anterior tibiæ are very small, and not by any means conspicuous. The body beneath is finely and densely punctured, and finely pubescent, and rather darker colored than the upper surface.

TACHYUSA Er.

94. T. cavicollis. Valde elongata, picea, dense subtilissime punctulata, pube subtili cinerea vestita, thorace late (maris valde profunde) canaliculato, latitudine vix breviore, elytris margine apicali pallido, abdomine segmentis anterioribus (1–3) constrictis ultimoque piceo-testaceis, antennis fuscis basi testaceis; pedibus flavo-testaceis. Long. ·10.

Middle, Southern, and Western States; common.

95. T. nigrella. Elongata, nigra nitida, tenuiter cinereo-pubescens, subtilissime punctulata, thorace obsolete canaliculato, ante basin transversim leviter foveato, latitudine paulo breviore, abdomine antice parum angustato segmentis 1–3 transversim profunde impressis; pedibus nigro-piceis. Long. ·12.

Middle and Western States; common.

96. T. baltifera. Minus elongata, nigro-picea nitida, subtiliter punctulata, tenuiter pubescens, thorace elytris abdominisque segmentis 1–3 piceo-testaceis; thorace postice canaliculato, ante basin transversim impresso, latitudine paulo breviore; abdomine basin versus paulo angustato, articulis 1–3 profunde transversim impressis; antennis pedibusque fusco-testaceis. Long. ·10.

One specimen, Coney Island, near New York. Less elongate than the other species, with the fine punctures, especially of the thorax, less dense and more distinct than in the two preceding species.

97. T. gracillima. Valde elongata, nigro-picea nitida, subtiliter pubescens, capite piceo subtilissime punctulato, thorace latitudine vix breviore, ante basin transversim impresso, sat dense punctulato, piceo-testaceo, elytris piceo-testaceis distincte punctulatis, abdomine articulis

1–3 piceo-testaceis, profunde constrictis, ultimis nigricantibus parce subtiliter punctulatis, antennis pedibusque piceo-testaceis. Long. ·12.

Middle and Western States; common. Resembles in form *T. cavicollis*, but is readily distinguished by the differences in color and sculpture.

ATEMELES Stephens.

98. A. cava. Ferrugineus, tenuiter pubescens, antennis articulo 3io praecedente duplo longiore, thorace vix conspicue punctulato, lateribus late reflexis, angulis posticis acutis oblique productis, elytris haud dense subtiliter punctulatis, abdomine supra laevigato. Long. ·20–·23.

Massachusetts, Pennsylvania, Illinois; rare. I have never found this species, and do not know with what species of ant it lives.

HYPOCYPTUS Mann.

99. H. ziegleri. Brevis, niger, nitidus, parce pubescens, thorace angulis posticis rotundatis, margine tenuissimo vix diaphano, pedibus antennisque obscure testaceis, his sensim clavatis. Long. ·03.

York, Pennsylvania; Rev. D. Zeigler. Remarkable for the body being almost broader than its length; each elytron is one half broader than long. The antennæ are gradually, and not strongly clavate.

100. H. testaceus. Ovatus, latitudine fere sesqui longiore, testaceus nitidus, subtiliter pubescens, thorace angulis posticis rectis, elytris subtiliter punctulatis, margine latiore concavo; antennis abrupte fortiter clavatis. Long. ·02.

Athens, Georgia; under pine bark. The abdomen is as long as the elytra; the club of the antennæ is very distinct, and the joints 3–7 are very gradually thickened.

101. H? depressus. Ovalis, latitudine sesqui longiore, supra planus, fusco-testaceus, laevigatus, setis erectis thorace parcius, elytrorum abdominisque lateribus sat dense pilosellus, thorace angulis posticis rotundatis; pedibus pallidis, ano stylis duobus conspicuis armato. Long. ·04.

Louisiana; Dr. Schaum. The antennæ are broken off, but the tarsi are 4-jointed, and I am, therefore, inclined to refer this curious insect to the present genus, notwithstanding the differences in the sculpture and pubescence; the erect hairs are short and sparse on the thorax, but become longer on the elytra, and are numerous at the sides; on the abdomen, which is about as long as the elytra, the hairs are long, and tolerably thickly distributed; the two anal processes are stout and conical, and about one-half the length of the abdomen; the base of the antennæ, and the feet are pale yellow.

COPROPORUS Kraatz.

102. C. grossulus. Latiusculus, parum convexus, niger nitidus, thorace obsolete, elytris parce punctulatis, his versus marginem longitudinaliter impressis, abdomine supra et subtus subtiliter punctato; antennarum basi pedibusque piceo-testaceis. Long. ·17.

Arizona; in trunks of *Cereus giganteus.* Much larger and less convex than our other species; the mesosternum is very strongly carinate; the antennæ are black with the exception of the three or four basal joints, which are dark testaceous. The sides of the abdomen are provided with a few long bristles.

103. C. punctipennis. Convexus, niger nitidus, thorace obsolete punctulato, lateribus diaphanis, elytris sat dense punctulatis, ad latera longitudinaliter impressis, margine apicali piceo, abdomine vix punctulato, segmentis singulis piceo-marginatis; antennis pedibusque fusco-testaceis. Long. ·09.

Fort Yuma, California; Of the same size and shape as *C. ventriculus,* but the elytra are more densely punctulate, and the apical margin as well as the segments of the abdomen are tinged with pale piceous.

104. C. laevis. Convexus, niger nitidus, thorace laevissimo, lateribus diaphanis, elytris obsolete punctulato-rugosis, versus marginem medio impressis, margine apicali abdomineque piceis, hoc vix parce punctulato, antennis pedibusque piceis, illis basi oreque testaceis. Long. ·09.

Southern States; common. Of the same size and shape as *C. ventriculus,* but easily distinguished by the almost imperceptible punctures of the elytra.

BOLETOBIUS Leach.

105. B. gentilis. Capite latitudine duplo longiore nigro, ore flavo, thorace latitudine haud breviore rufo-flavo, elytris nigris, limbo basali latiore, apicalique angusto rufo-flavis, seriebus punctorum solitis vix conspicuis, abdomine rufo-flavo, segmentis ultimis supra et subtus nigris, pectore nigro; pedibus flavis, antennis crassiusculis nigris, articulus 4 primis ultimoque flavis. Long. ·17.

Middle States; rare. Allied to *B. cinctus*, but the thorax is narrower and more gradually narrowed in front, and the suture is not yellow. The fifth dorsal segment of the abdomen (the first of the black ones), as in that species, has the posterior margin yellow. The abdomen is smooth above and sparsely but strongly punctured beneath.

106. B. rostratus. Niger nitidus, capite latitudine plus triplo longiore, ore testaceo, thorace latitudine haud longiore, antrorsum fortiter angustato, elytris seriebus punctorum solitis vix conspicuis, piceo-testaceis, vitta obliqua a humero sensim dilatata et apicem totum occupante ornatis, abdomine supra et subtus parce fortiter punctato; antennis elongatis basi obscure testaceis. Long. ·33.

Middle States; rare. The tip of the last joint of the antennæ is piceous. The elytral stripe commences at the humerus, and is gradually dilated to the tip where it extends to the suture and external angle. The first dorsal segment of the abdomen is smooth, the others are punctured like the ventral segments.

107. B. longiceps. Piceus nitidus, capite nigro-piceo latitudine plus duplo longiore, ore testaceo, thorace nigro latitudine haud breviore, antrorsum fortiter angustato, margine basali pallide piceo; elytris seriebus solitis tripunctatis dilute piceis, limbo laterali nigricante, abdomine supra dilute piceo, fortiter parce punctato, pedibus testaceis, antennarum articulo 1mo piceo-testaceo. Long. ·30.

Lake Superior, one specimen. Related to the preceding, but besides the differences in color, the head is less elongate; as in it, the first dorsal segment of the abdomen is smooth; the others are punctured like the ventral segments, which are, however, darker in color.

BRYOPORUS Kraatz.

108. B. flavipes. Nigro-piceus nitidus, antennarum basi pedibusque testaceis, elytris seriebus punctatis setigeris, abdomine modice punctato, helvo pubescente. Long. ·17.

Louisiana; Dr. Schaum. The outer rows of punctures are somewhat confused; the thorax is not wider than its length; the four apical and four basal punctures are not very near the margins.

109. B. rubidus. Piceus nitidus, capite obscuro, thorace elytrisque rufis, his seriebus grosse punctatis et subrugosis, punctis breviter setigeris, abdomine modice punctato pubescente, segmentis piceis margine postico pallidiore; ore antennarum basi pedibusque rufo-testaceis. Long. ·15.

San Jose, California. The punctures of the base and apex of the thorax are close to the margins; the punctures of the elytra are larger than those of the preceding species, and somewhat less regular; there are some rugosities visible which are not seen in *B. flavipes.*

110. B. rufescens. Nigro-piceus nitidus, thorace elytrisque rufis, his seriebus punctatis setigeris, abdomine fortiter punctato pubescente; ore, antennarum basi, ano, pedibusque rufo-testaceis. Long. ·15–·17.

Middle and Western states. More robust than *B. flavipes,* with the punctures of the thorax still more remote from the base and apex.

111. B. testaceus. Piceus nitidus, minus convexus, ore, antennarum basi, pedibus, thorace elytrisque rufo-testaceis, his seriebus punctorum solitis fere obliteratis, abdomine segmentis dorsalibus fortiter punctatis margine postico anoque rufo-testaceis. Long. ·14.

Southern States; Dr. Zimmermann. Smaller and less convex than the other species, with the punctures of the elytral rows very small and indistinct; a few larger punctures may be seen here and there; the apical and basal punctures of the thorax are remote from the margins.

MYCETOPORUS Mann.

112. M. flavicollis. Capite pectore elytrisque nigris, his ultra seriem dorsalem bi- vel tripunctatis, apice late flavis; thorace flavo, punctis apice et basi approximatis; abdomine piceo-rufo, apice et basi pallidiore, parce punctato; ore pedibusque flavis, antennis piceis basi et apice flavis. Long. ·17.

Louisiana; Dr. Schaum. A beautiful species, strikingly different in coloration from any other known to me. The bristles at the sides of the abdomen are numerous. The thorax has only the usual apical and basal punctures, and no discoidal ones.

113. M. lucidulus. Piceus pernitidus, thorace margine basali pallidiore, punctis utrinque tres vel quatuor dorsalibus; elytris intra seriem dorsalem puncto postico impressis; abdomine parce punctato, apice pallidiore, antennarum basi pedibusque piceo-testaceis. Long. ·11—·13.

Middle and Southern States. This small species has the punctures of the thorax very well marked; the antennæ are rather stouter than usual, and not pale at the tip. In one specimen there are two impressed punctures behind the middle of the elytra inside of the dorsal series; there is likewise a supplementary dorsal puncture on the thorax behind the one near the middle on the right side.

114. M. consors. Nigro-piceus nitidus, thorace punctis utrinque quatuor dorsalibus; elytris serie dorsali duplici, alteraque externa distincta; abdomine piceo, parce punctato, segmentis margine postico piceo-rufo, antennis fuscis basi pedibusque fusco-testaceis. Long. ·14.

Michigan. Rather broader than the preceding, and readily distinguished by the dorsal punctures of the elytra being arranged in two rows, each containing six or seven well-marked punctures; half way between the dorsal series and the margin is another row of four or five smaller punctures. The punctures of the thorax are well marked.

ACYLOPHORUS Nordmann.

115. A. gilensis. Niger nitidus, thorace antrorsum modice angustato, lateribus rotundatis, elytris fortiter haud dense punctatis, abdomine subtiliter punctato, longius nigro-piloso; pedibus anterioribus piceis. Long. ·24.

Gila River, below Pima villages. Of the same size as *A. pronus*, but with the elytra more coarsely and less densely punctured; the pubescence of the abdomen is longer, and the thorax is less narrowed in front and more rounded on the sides.

Sexual differences were not observed by Erichson or by Kraatz. I find in our species that the claws of the anterior tarsi of the male are much larger than those of the female. The species all occur on the margin of streams.

116. A. pratensis. Niger nitidus, thorace antrorsum modice angustato, lateribus parum rotundatis, elytris subtilius punctatis, pubescentibus, abdomine subtiliter punctato, longius pubescente, tarsis piceo-testaceis. Long. ·28.

Kansas. Much larger than *A. pronus*, with similar sculpture,

but with the thorax less strongly narrowed in front; only the tarsi, even of the anterior legs, are testaceous.

HETEROTHOPS Stephens.

117. H. fusculus. Thorace elytris et ano piceo-rufis, illo latitudine paulo breviore antrorsum fortiter angustato, elytris thorace haud brevioribus, subtiliter punctatis, abdomine piceo, punctato, segmentis postice late rufo-marginatis, antennis piceis basi testaceis, capite ovali nigro-piceo, pedibus testaceis. Long. ·17.

One specimen; Cambridge, Mass. The under surface is reddish-brown and hairy, paler towards the tip of the abdomen.

118. H. fumigatus. Thorace elytrisque piceo-rufis, illo latitudine haud breviore, antrorsum sensim angustato, elytris thorace haud brevioribus, minis subtiliter punctatis, abdomine piceo, subtiliter confertim punctato, apice paulo pallidiore, antennis piceis basi testaceis, capite ovali nigro-piceo, pedibus testaceis. Long. ·14.

Detroit, on the bank of the river. Similar to the preceding, but smaller, with the thorax comparatively narrower and less narrowed in front, and the elytra more strongly punctured.

119. H. californicus. Nigro-piceus, capite ovali, thorace marginibus sæpe rufescentibus, latitudine haud breviore, antrorsum fortiter angustato, elytris thorace paulo longioribus, fortiter haud dense punctatis, margine apicali sæpe rufescente, abdomine dense subtiliter punctato, segmentis margine postico, anoque piceo-rufis. Long. ·14—·18.

San Francisco, California. Easily distinguished by the antennæ and feet being nearly black, and the base of the former not paler than the outer joints.

120. H. pusio. Nigro-piceus, thorace latitudine paulo breviore, antrorsum fortiter angustato, elytris thorace paulo longioribus, rufo-piceis subtiliter dense punctatis, abdomine piceo, dense subtiliter punctato, apice rufo-piceo; antennarum basi pedibusqe piceo-testaceis. Long. ·10.

New York; one specimen. Easily distinguished by its much smaller size, and by the more finely punctured elytra.

TRIGONOPHORUS Nordmann.

121. T. subcoeruleus. Valde elongatus, niger nitidus, capite grosse punctato, plaga frontali lævi, thorace latitudine paulo longiore, utrinque grosse punctato, vitta lata dorsali lævi, elytris cyaneis fortiter crebre

punctatis, abdomine subtiliter parcius punctato, et longe piloso. Long. ·53.

Texas. The punctures of the head, thorax, and elytra are furnished with short hairs; those of the abdomen with longer ones; the antennæ are one-fourth longer than the head, and considerably thickened externally, the outer joints being fully twice as wide as long. The form of body is still more slender than in *Ocypus ater.*

STAPHYLINUS Linn.

122. S. comes. Fusco-æneus, fulvo-pubescens, capite thoraceque densissime punctatis, hoc latitudine paulo longiore linea angusta dorsali lævi, elytris dense subtiliter punctatis, fusco subvariegatis, abdomine supra bifariam nigro-maculato, apice piceo-rufo; subtus nigro-piceus, abdomine lateribus sericeo-maculatis, pedibus rufo-testaceis, femoribus nigro-maculatis, antennis nigro-piceis, articulo 1mo rufo-testaceo. Long. ·50.

Southern States; Dr. Zimmermann. Resembles in appearance *S. maculosus,* but is much smaller, with the medial smooth stripe of the thorax very distinct, and the legs brownish-yellow. The scutellum is covered with a dense patch of black hair.

It is possible that it may be a light-colored variety of *S. mysticus* Er., a species unknown to me.

123. S. carbonatus. Niger nitidus, nigro-pubescens, capite thoraceque confertim punctatis, illo linea lævi antice obsoleta, hoc latitudine paulo longiore vitta dorsali lævi notato, elytris dense punctulatis, abdomine immaculato, pedibus nigro-fuscis. Long. ·50.

Western States. Quite distinct by the above characters from any other species known to me. The sides of the thorax are parallel, or perhaps converge a little from the anterior angles.

124. S. badipes. Æneo-niger, nigro-pubescens, capite thoraceque confertissime punctatis, linea angusta dorsali lævi ornatis, hoc latitudine vix longiore, elytris dense punctulatis, abdomine segmentis 2—6 macula basali flavo-pubescente ornatis, antennis rufo-piceis, pedibus ferrugineis. Long. ·50—·56.

Midddle and Western States, as far north as Pembina, Minnesota.

125. S. cicatricosus. Æneo-niger, capite thoraceque nitidis, haud dense inæqualiter grosse punctatis, pube erecta parce vestitis, elytris confertissime punctulatis, pubescentibus, scutello atro-tomentoso, abdomine subtiliter punctato, pubescente, bifariam nigro-maculato; antennis pedibusque nigris, variat elytris fusco-ferrugineis. Long. ·50—·63.

Middle and Southern States, especially near the ocean. Not rare. Very distinct from all our other species by the punctures of the head and thorax being irregularly not closely placed; the head has a large ill-defined smooth frontal space; the thorax is marked with a broad smooth dorsal vitta, and on each side of it an elongate smooth space.

126. S. ornaticauda. Niger, pubescens, capite thoraceque dense punctatis, hoc linea dorsali tenui lævi, elytris confertissime punctulatis, nigro-fuscis, abdomine subtiliter punctulato, articulis 2—6 macula rotundata aureo-pilosa utrinque ornatis; scutello colloque flavo-pilosis, antennis piceis, articulus duobus primis pedibusque obscure ferrugineis. Long. ·58.

Canada; Mr. Ulke. Very distinct from any other species known to me. The dorsal line of the thorax is very narrow, and a less distinctly defined one may be observed on the head; the punctures of the head and thorax are finer than usual, being almost as in *S. tomentosus.* The golden spots of the abdomen are very conspicuous, and are situated near the lateral margin on the anterior portion of the joints; similar but less definite spots are seen on the ventral segments, which are less densely and less finely punctured than the dorsal segments. The constriction of the head is fringed with yellow hairs; and similar yellow hairs clothe the scutellum.

PHILONTHUS Curtis.

127. P. lepidulus. Linearis, rufo-piceus, nitidus, subtiliter pubescens, capite ovali utrinque punctis pluribus impresso, thorace rufo-testaceo, latitudine longiore, postice subangustato, seriebus dorsalibus 8—10 punctatis, punctisque utrinque paucis dispersis, elytris parce minus subtiliter punctatis apice flavo-marginatis, abdomine supra obscure ferrugineo, obsolete parce punctulato, apice piceo, antennarum basi pedibusque flavo-testaceis. Long. ·13.

Georgia, near the mountains. The punctures of the sides of the head and thorax are not numerous, and are widely separated.

128. P. terminalis. Linearis, læte flavo-testaceus nitidus, subtiliter pubescens, capite ovali nigro, parce fortiter punctato, medio lævi, thorace latitudine longiore, postice subangustato, parce fortiter punctato, vitta lata dorsali lævi, elytris thorace longioribus, parce punctatis, nigris triente postico rufo-testaceis, abdomine parce punctulato, segmentis duobus ultimis supra et subtus nigris, postice testaceo-marginatis; pectore nigro, antennis fuscis basi testaceis. Long. ·20.

Maryland; Mr. J. P. Wild.

129. P. pæderoides. Linearis, læte flavo-testaceus nitidus, subtiliter pubescens, capite ovali nigro, parce fortiter punctato, medio lævi, thorace latitudine longiore, postice subangustato, parce fortiter punctato, vitta lata dorsali lævi, elytris thorace longioribus, sat dense subtiliter punctatis, cyaneo-nigris margine apicali flavo; abdomine confertim punctulato, segmentis duobus ultimis supra et subtus nigerrimis; pectore nigro, antennis nigro-piceis basi testaceis. Long. ·17—·20.

Western States, Lake Superior; found also at Fort Yuma and San Diego, California. A widely diffused species found on the margin of streams.

130. P. gratus. Linearis, læte rufo-testaceus nitidus, subtiliter pubescens, capite postice late rotundato, parce fortiter punctato, medio lævi, thorace latitudine longiore lateribus parallelis, parce fortiter punctato, vitta dorsali lata lævi, elytris thorace vix longioribus, punctatis, macula utrinque magna discoidali nigra ornatis, abdomine confertim punctulato, segmentis duobus ultimis supra et subtus nigerrimis; pectore antennisque nigro-piceis, his basi testaceis. Long. ·20.

Colorado River, near Fort Yuma, California.

131. P. umbripennis. Linearis, obscure rufo-testaceus nitidus subtiliter pubescens, capite oblongo, piceo, parce fortiter punctato, medio lævi, thorace latitudine longiore lateribus parallelis, parce fortiter punctato, vitta lata dorsali lævi, elytris thorace parum longioribus, subtiliter punctatis, nigro-piceis, margine apicali obscure testaceo, abdomine subtiliter haud dense punctato: subtus totus rufo-testaceus, pedibus pallidioribus. Long. ·17.

Middle States, rare. The antennæ are wanting in the only specimen in my collection. The head is less elongated than in the species above described.

132. P. lithocharinus. Elongatus, nigro-piceus, capite magno basi truncato, grosse punctato, vitta media lævi, thorace latitudine longiore lateribus rectis, postice sensim paulo angustato, confertim

punctato, vitta dorsali lævi, elytris subtiliter confertissime punctatis, pubescentibus, epipleuris macula que apicali obscure testacea utrinque ornatis, abdomine pubescente subtiliter dense punctato, ano testaceo, coxis femoribus abdominisque segmentis ventralibus plus minusve obscure ferrugineis. Long. ·35.

San Diego, California, under sea-weed. This and the followlowing species belong to a division of the genus which is represented on the Atlantic coast only by *P. bistriatus* Er. They are totally unlike the ordinary species of Philonthus in appearance, but resemble Lithocharis. The only species previously described is *P. femoralis* Mäklin, smaller and more slender than this, with the head finely punctured.

Body dark blackish-brown, depressed. Head large, a little longer than wide, sides parallel behind the eyes, base truncate, hind angles rounded; surface very coarsely punctured, with a broad smooth medial stripe, which is broader in front; from the punctures proceed a few short gray hairs, or bristles. Antennæ one-fourth longer than the head, not much thickened externally, 2d and 3d joints conical, the latter a little longer, following joints nearly equal, somewhat rounded. Thorax narrower than the head, longer than wide, gradually narrowed from the front angles to the base, which as well as the apex is broadly rounded; surface not finely, but tolerably closely punctured, with a broad smooth dorsal vitta. Elytra longer and wider than the thorax, very finely and densely punctured, clothed with short brown pubescence; epipleuræ and a round apical spot half way between the suture and margin dull testaceous. Abdomen finely and densely punctured and pubescent, last two joints inclining to testaceous. Body beneath dark piceous; thighs sometimes ferruginous; abdomen more or less dark ferruginous banded with black.

In the male the 6th ventral segment is emarginate behind. The anterior tarsi are dilated in both sexes.

133. P. dubius. Valde elongatus, ater, capite ovato postice latiore, thoraceque sat fortiter punctatis, vitta dorsali lævi signatis, hoc latitudine longiore, postice angustato, elytris thorace haud longioribus, abdomineque confertissime subtiliter punctatis et griseo-pubescentibus. Long. ·30.

One male, San Diego, California. The head is scarcely wider than the thorax, a little wider behind the eyes, and broadly rounded at the base. The antennæ are as long as the head and thorax, slender, with the outer joints not thicker. The terminal ventral segments both above and below are inclined to become testaceous at the hind margins; the 6th ventral is emarginate, as in *P. lithocharinus.*

134. P. opacus. Depressus, opacus piceus, vel rufo-piceus, capite ovato, postice truncato fortius punctato, vitta dorsali lævi, thorace piceoferrugineo, latitudine paulo longiore, postice angustato, confertim sat fortiter punctato, vitta dorsali lævi, elytris thorace haud longioribus, abdomineque confertissime punctulatis et subtiliter pubescentibus. Long. ·27—·30.

San Diego, under sea-weed. This species resembles in form *P. lithocharinus,* but is less slender, and the head is scarcely wider than the thorax. The antennæ are as long as the head and thorax, and slender. The body is sometimes reddish-brown, with only the elytra and abdomen darker. The sexual characters are as in *P. lithocharinus.*

135. P. decipiens. Elongatus, piceus vel piceo-rufus, capite obscuro, ovali postice truncato, grosse punctato, vitta media lata lævi, thorace latitudine paulo longiore, postice subangustato, haud dense punctato, vitta dorsali lævi, elytris opacis, thorace longioribus, abdomineque confertim punctulatis, et pubescentibus. Long. ·20.

San Diego, under sea-weed. The antennæ are stout, and nearly as long as the head and thorax. The punctures of the thorax are not closely set, and tend to form rows.

Sexual characters as in the preceding species, but the 6th ventral segment of the male is less deeply emarginate.

136. P. sulcicollis. Elongatus depressus, ater, capite magno, basi emarginato, grosse punctato, vitta lata lævi, thorace latitudine longiore, postice sensim angustato, parce subseriatim punctato, vitta dorsali lævi paulo elevato, sulco punctigero definita, elytris thorace longioribus abdomineque confertissime punctatis et griseo-pubescentibus, pedibus obscure testaceis. Long. ·25.

San Diego, under sea-weed. Resembles closely *P. bistriatus* Er. of the Atlantic coast, and differs principally by the head being larger and flatter in the male, and the antennæ somewhat shorter.

137. P. confertus. Nigro-æneus, pube minus subtili griseo-cinerea vestitus, capite ovali, fortius punctato, plaga rhomboidea lævi nitido, thorace latitudine haud breviore, ovato antrorsum modice angustato, confertim punctato, vitta dorsali lævi nitida, elytris thorace haud longioribus, micantibus, dense subtilius punctatis, abdomine confertim punctulato, antennarum basi pedibusque testaceis, coxis piceis. Long. ·33.

Illinois and Nebraska. Of the ordinary form of Philonthus, but remarkable for the dense punctuation of the thorax. The antennæ are piceous, with the first three joints testaceous, gradually thickened externally, with the outer joints nearly square, and the last joint strongly acuminate beneath; the 3d joint is longer than the 2d or 4th.

LEPTACINUS Er.

138. L. flavipes. Nigro-piceus nitidus, capite crebre fortiter punctato, vitta angusta media lævi, thorace oblongo-ovali utrinque parce punctato, seriebus dorsalibus 12—16 punctatis, elytris parce subtilius punctatis, pedibus flavo-testaceis. Long. ·18.

Middle and Western States; rare. The dorsal abdominal segments are finely and sparsely punctulate.

139. L. longicollis. Nigro-piceus, vel piceus nitidus, parce setosus, capite confertim punctato, vitta media lævi, thorace elongato-ovali, postice vix angustato, sat dense subtiliter punctato, vitta dorsali lævi, elytris parce subtiliter punctatis, abdomine punctulato, ano, antennarum basi pedibusque testaceis. Long. ·13.

Middle States, usually in ants' nests. The form of the thorax is different in the species of this genus from that observed in Leptolinus: in the latter it is elongate, narrowed behind, and feebly sinuate on the sides, as in ordinary Xantholinus; in Leptacinus it is elongate oval, scarcely narrowed behind, and broadly rounded on the sides. By an error this species has been placed in Leptolinus in the Catalogue.

LEPTOLINUS Kraatz.

140. L. parcus. Niger, parce setosus, capite elongato oblongo, thoraceque parcius haud profunde punctatis, vitta media lævi male definita, elytris piceo-testaceis, parce punctatis, segmentis ventralibus postice pedibusque piceo-testaceis. Long. ·26.

California, San Jose; not rare. The antennæ are thick, about one-fourth longer than the head; the abdomen is sparsely punctulate.

141. L. grandiceps. Nigro-piceus, parce setosus, capite elongato, oblongo, parce fortiter punctato, thorace vage haud profunde punctato, vitta media lævi male definita, elytris parce subtilius punctatis, abdomine subtiliter parce punctulato, postice segmentis abdominis ventralibus pedibusque testaceis. Long. ·23—·26.

San Francisco, California. Obviously different from the preceding by the more strongly punctured head.

142. L. nigripennis. Rufo-piceus, parce setosus, capite crebre fortiter, thorace parcius punctato, vitta media lævi notatis, elytris nigro-piceis parce punctatis, abdomine parce punctulato, segmentis supra et subtus postice testaceis, antennis pedibusque rufo-testaceis. Long. ·25.

One specimen, Louisiana; Dr. Schaum.

143. L. ruficollis. Ferrugineus, parce setosus, capite crebre fortiter, thorace parcius punctato, vitta lævi media notatis, elytris nigro-piceis, parce subtilius punctatis, margine lato apicali et externo flavo, abdomine parce punctulato, nigro-piceo, segmentis postice testaceo-marginatis, pedibus flavo-testaceis. Long. ·18—·20.

Louisiana; Dr. Schaum. Smaller than the preceding, with the elytra more sparsely punctured.

LATHROBIUM Grav.

144. L. grande. Nigrum nitidum, subtiliter pubescens, capite thorace sublatiore, punctato, parcius piloso, thorace latitudine longiore ovali profunde punctato, vitta dorsali lævi, elytris punctatis, abdomine subtiliter punctulato, pedibus obscure rufo-piceis. Long. ·40.

Lake Superior to North Carolina; very rare. Our largest species. The male has the penultimate ventral segment acutely produced on the hind margin, and the last segment longitudinally broadly excavated for its whole length.

145. L. punctulatum. Nigrum nitidum parce pubescens, capite subtiliter antice parce punctato, plaga media indistincta lævi, thorace latitudine longiore oblongo-ovali, fortiter punctato, vitta dorsali lævi, elytris castaneis punctatis, abdomine alutaceo micante, pedibus antennisque ferrugineis, his extrorsum obscurioribus. Long. ·27.

A widely distributed species, found in New York, Georgia, Kansas, and at Lake Superior. The last ventral segment of the male is broadly excavated as in the preceding, but the penultimate is acutely emarginate behind at the middle.

Varies with the elytra nearly black, the outer apical angle alone being brown; in such specimens the antennæ are dark brown with only the base reddish-brown.

146. L. angulare. Nigrum nitidum parce pubescens, capite parce punctato, medio lævi, thorace latitudine longiore fortiter punctato, vitta dorsali lævi, elytris punctatis macula apicali externa rufa, abdomine alutaceo, pedibus testaceis, antennis obscuris basi ferrugineis. Long. ·25.

Southern States and Canada. Closely allied to the preceding, but the head is not finely punctulate behind as in that species. Sexual characters as in *L. punctulatum.*

147. L. nigrum. Nigrum subnitidum, parce pubescens, capite parce punctato, thorace sat dense minus fortiter punctato, vitta dorsali lævi, elytris confertim subtilius punctatis et rugulosis, abdomine alutaceo, antennis pedibusque obscure piceis. Long. ·20.

Lake Superior. Resembles in characters *L. angulare*, but the thorax and elytra are more finely punctured.

148. L. jacobinum. Nigrum nitidum, capite sat dense profunde, medio parcius punctato, thorace latitudine longiore fortiter punctato, vitta dorsali lævi, elytris sat dense punctatis et paulo rugosis, abdomine alutaceo, pedibus ferrugineis, antennis obscuris. Long. ·28.

San Diego, California. The antennæ are thicker than in any of the preceding species, but less so than in *L. puncticolle.*

149. L. pedale. Nigro-piceum nitidum, capite thorace paulo latiore sat dense punctato, thorace latitudine longiore fortiter punctato, vitta dorsali lævi, elytris subtiliter parce punctatis, abdomine punctulato, segmentis piceo-marginatis, antennis crassiusculis obscure ferrugineis, pedibus flavo-testaceis. Long. ·32.

Mississippi; Dr. Schaum. The preceding species have very slender antennæ; in this and the two following they are thicker and somewhat moniliform, though much less so than in *L. puncticolle* or *L. brevipenne.*

150. L. simile. Nigrum nitidum, capite parce grosse punctato, thorace latitudine longiore subtilius punctato, vitta dorsali lævi, elytris subtiliter parce punctatis, ano rufescente, antennis crassiusculis obscure ferrugineis, pedibus flavo-testaceis. Long. ·30.

Middle States; rare. The antennæ are tolerably slender, but less so than in *L. angulare.* The last ventral segment of the male, as usual, is longitudinally excavated, the two preceding are longitudinally impressed, and the penultimate is deeply and broadly emarginate.

151. L. concolor. Nigrum nitidum, capite parce, thorace profunde punctatis, hoc vitta dorsali lævi, elytris parce subtiliter punctatis, antennis crassiusculis obscure ferrugineis, pedibus flavo-testaceis. Long. ·28—·31.

Western States, and north Shore of Lake Superior. Nearly resembles *L. pedale,* but differs by the thorax being more strongly punctured, and the general form of body more slender and more convex. The sexual characters are as in the last species.

152. L. tenue. Valde elongatum cylindricum nigrum, capite parce punctato, thorace latitudine sesqui longiore, parce fortiter punctato, vitta dorsali lævi; elytris parce punctatis, abdomine subtilissime punctato, antennis crassiusculis rufo-piceis, pedibus ferrugineis. Long. ·22.

One female, New York. Much smaller and more slender than *L. concolor,* with the antennæ comparatively stouter and the thorax longer.

153. L. brevipenne. Nigro-piceum nitidum, capite punctis paucis impresso, medio lævi, thorace latitudine longiore, utrinque parce grosse punctato, vitta lata dorsali lævi, elytris thorace fere sesqui brevioribus, convexis fortiter haud dense punctatis, castaneo-tinctis, abdomine subtiliter punctato, antennis piceis crassis, pedibus piceo-rufis. Long. ·32.

Illinois; Mr. Willcox. A very distinct species; the antennæ are as stout as in *L. puncticolle.*

154. L. californicum. Depressiusculum, nigrum nitidum, capite punctis paucis versus latera notato, thorace latitudine longiore, versus latera parce subtiliter punctato, vitta dorsali lævi seriebus 12—15 punctatis definita, elytris subtiliter fere seriatim punctatis, abdomine punctulato, segmentis postice testaceo-marginatis, antennis gracilibus pedibusque nigro-piceis. Long. ·25.

San Jose, California; only females in my collection.

155. L. seriatum. Nigrum pernitidum, cylindricum, capite punctis paucis dispersis notato, thorace latitudine longiore ad latera parce, versus medium biseriatim punctato, elytris fortiter seriatim punctatis, abdomine subtiliter parce punctulato, ano rufo-testaceo, antennis gracilibus, palpis pedibusque ferrugineis. Long. ·23.

One male, South Carolina; Dr. C. Zimmermann. The fourth ventral segment is transversely impressed near the posterior margin, and the fifth feebly impressed and emarginate behind. The anterior thighs are feebly sinuate beneath, but not toothed.

Several small species in my collection are yet nondescript, but the want of time prevents me from making them known in the present publication.

CRYPTOBIUM Mann.

156. C. pimerianum. Nigro-piceum, nitidum, capite confertim fortiter punctato, thorace angustiore, latitudine longiore parce fortiter punctato, vitta lata dorsali lævi, elytris thorace longioribus, fortiter dense punctatis, margine apicali rufescente, abdomine piceo punctato, segmentis postice late rufo-marginatis, ventre pedibusque rufo-piceis. Long. ·39.

Valley of Colorado and Gila, California. The head is wider and more thickly punctured than in *C. bicolor*, and the elytra less coarsely but more densely punctured. In the male the 2d and 3d ventral segments are deeply foveate at the middle; the 3d is prolonged behind into a large obtuse process extending over the 4th segment.

157. C. sellatum. Nigrum nitidum, capite confertim punctato, antice lævi, thorace latitudine fere sesqui longiore, parce subseriatim punctato, vitta lata dorsali lævi, elytris dense punctatis, thorace longioribus, læte rufis, vitta suturali communi a basi ad dodrantem extensa, abdomine punctulato; ore antennisque obscure, pedibus læte testaceis. Long. ·35.

Illinois, rare. The sixth ventral segment of the male is acutely emarginate behind. A very beautiful and distinct species.

158. C. despectum. Valde elongatum, nigrum subnitidum, capite confertim subtilius punctato, fronte lævi, thorace latitudine longiore, nitido, minus subtiliter sat crebre punctato, vitta dorsali lævi angusta, elytris dense punctatis, limbo apicali tenui testaceo, abdomine parce vix conspicue punctulato, antennis palpisque obscure rufis, pedibus flavis. Long. ·26.

Louisiana; Dr. Schaum. In the male the third ventral segment is prolonged into a broad rounded process extending to the middle of the fifth joint, and clothed with very long divergent hairs.

159. C. pusillum. Valde elongatum lineare, nigrum, capite thoracique rude sat dense punctatis, hoc vitta dorsali angusta lævi, elytris fortiter punctatis, thorace subbrevioribus, abdomine subtiliter haud dense punctato, ore, antennis palpis pedibusque flavo-testaceis. Long. ·20.

One male from the sea shore of Long Island, N. York. Remarkably different in size and sculpture from our other species. The head, thorax, and elytra are nearly of the same width, and the body is more cylindrical than usual. The sixth ventral segment is widely cleft to the base, with the sides of the cleft parallel; the fifth is scarcely perceptibly impressed at the tip.

160. C. cribratum. Nigrum, capite thoraceque pernitidis, illo elongato, punctis perpaucis notato, thorace latitudine sesqui longiore, seriebus dorsalibus 7—9 punctatis, punctisque paucis subtilibus versus latera, elytris læte rufis, sutura antice basique nigricante, punctis magnis seriebus utrinque 8 vel 9 positis, abdomine subtiliter profunde punctato, antennis rufis, pedibus pallidis. Long. ·38.

Illinois, rare. The sixth ventral segment of the male has a small triangular emargination behind.

161. C. serpentinum. Valde elongatum, nitidum, capite punctis paucis notato, ante oculos nigerrimo, pone oculos læte rufo oblique angustato, thorace parce subseriatim punctato, nigerrimo, antrorsum paulo angustato, elytris thorace longioribus rufo-testaceis, fortiter subseriatim punctatis, macula communi scutellari nigro; abdomine parce subtiliter punctato læte rufo, segmento primo ultimisque duobus nigris, palpis pedibus antennisque rufo-testaceis, his articulis 2—7 infuscatis. Long. ·38.

Pennsylvania and Alabama. By the singular form of the head this species recalls the genus *Ophites* Er. The color beneath is black, with the 2d, 3d, 4th, and base of 5th ventral segments red-testaceous. The 6th ventral segment of the male is triangularly incised at tip.

STILICUS LATR.

162. S. rudis. Æneo-niger opacus, capite thoraceque confluenter fortiter punctatis, hoc subtiliter canaliculato, linea tenui dorsali lævi, elytris subtiliter punctatis nitidis limbo apicali pallido, abdomine subtiliter punctulato, pedibus antennisque rufo-testaceis. Long. ·19.

Pennsylvania, rare. Twice the size of *S. dentatus*, with the head and thorax less coarsely punctured.

ECHIASTER ER.

163. E. opacus. Valde elongatus, piceo-niger, omnium subtilissime punctulatus, pube subtili cinerea vestitus, elytris limbo apicali flavo, abdomine segmentis postice testaceo-marginatis, antennis rufis, femoribus flavo-testaceis, tibiis tarsisque infuscatis. Long. ·16.

Southern States, common. The last ventral segment of the male is deeply cleft, and the penultimate is broadly emarginate; the fourth joint has three small tubercles, and the fifth joint is deeply excavated.

164. E. nitidus. Valde elongatus, piceo-rufus nitidus, parce pilosellus, lævis, elytris ante apicem, abdominisque segmentis tribus posticis obscurioribus. Long. ·12.

Louisiana; Dr. Schaum. These two species resemble in form *Stilicus*, but the first joint of the antennæ is longer, being equal to the three following ones united.

DACNOCHILUS Lec.

165. D. lætus. Elongatus cylindricus, læte rufo-testaceus nitidus, parce pilosellus, capite postice fere truncato, punctis perpaucis lateralibus notato, thorace latitudine haud longiore antice truncato angulis rectis, postice late rotundato angulis rotundatis, punctis paucis versus latera notato, elytris a basi ad trientem nigerrimis, vage tri- vel 4-seriatim punctatis, abdomine vix parce punctulato. Long. ·20.

South Carolina and Louisiana; rare. Body cylindrical, bright yellowish-red, shining, with a few scattered erect hairs. Head not longer than wide, convex, sides parallel behind the eyes, base very broadly rounded, hind angles rectangular, rounded at tip, surface smooth with a few scattered large punctures; antennæ longer than the head and thorax, gradually thickened externally, 3d joint longer than the 4th and equal to the 1st. Thorax quadrate, slightly narrowed behind, nearly truncate in front, broadly rounded at base, convex, with a few punctures arranged in rows, of which those nearest the middle contain 4 or 5 punctures, anterior angles not rounded, posterior ones broadly rounded. Elytra convex, not longer than the thorax, with the basal third black; a few distinct punctures are arranged in 3 or 4 rows, each containing 6 or 7 punctures; sutural stria distinct. Abdomen very finely but sparsely punctulate.

In the male the 6th ventral segment is broadly emarginate and longitudinally impressed.

The genus Dacnochilus is readily distinguished by the labrum acutely emarginate and impressed at the middle, by the almost invisible last joint of maxillary palpi, and the joints of the hind tarsi gradually diminishing in length; the neck is moderately thick, as in Lathrobium. It would seem more nearly related to *Scimbalium* than to any other foreign genus, but the convex body at once distinguishes it.

SUNIUS Steph.

166. S. monstrosus. Capite thoraceque nigris, parce pubescentibus, confertim punctatis, illo antice utrinque impresso, hoc latitudine paulo longiore, postice rotundato, antice angustato et producto, lateribus inde antice sinuatis, disco postice utrinque curvatim impresso, linea dorsali lævi parum conspicua, elytris testaceis planiusculis fortiter punctatis, abdomine punctulato piceo, segmentis anticis testaceo-marginatis, ultimis duobus testaceis, ore antennis pedibusque testaceis. Long. ·18.

Louisiana; Dr. Schaum. Resembles in form a *Stilicus*.

PAEDERUS Grav.

167. P. compotens. Rufus nitidus, capite metasterno segmentisque abdominis duobus ultimis nigris, elytris cyaneis, confertim punctatis; antennis nigro-piceis, articulis 3 primis rufis, pedibus obscure rufis. Long. ·28.

Sacramento Valley, California; Mr. S. S. Rathvon. Resembles *P. littorarius*, but is larger, and the elytra are much less coarsely punctured.

PINOPHILUS Grav.

168. P. parcus. Niger subopacus, capite thoraceque dense punctulatis, illo antice parce grosse punctato, hoc punctis magnis haud profundis sparsim positis, elytris dense profunde punctatis, abdomine subtiliter profunde punctato, antennis palpis pedibusque flavis. Long. ·48—·52.

Southern States; not rare. Smaller and more slender than *P. latipes*, with the head and thorax more densely punctulate.

169. P. densus. Niger subopacus, capite parce grosse punctato, punctulis minutis parcis interspersis, thorace elytrisque profunde fortiter punctatis, illo linea dorsali lævi parum conspicua, abdomine subtilius punctato, antennis palpis pedibusque flavo-testaceis. Long. ·37.

Colorado and Gila valleys, California. Of the same form as *P. latipes*, but much smaller.

170. P. opacus. Niger, subopacus, capite thoraceque nitidis, illo parce grosse punctato, et punctulato, hoc fortiter crebre punctato, elytris profunde dense punctatis, abdomine subtilius punctato, antennis palpis pedibusque flavo-testaceis. Long. ·32—·37.

Georgia. More slender than the preceding, being of the same form as *P. parcus*.

PALAMINUS Er.

171. P. pallipes. Nigro-piceus nitidus, capite fortiter haud dense punctato, thorace obovato, latitudine haud breviore, parce grosse punctato, elytris thorace latioribus et sesqui longioribus, piceo-testaceis fortiter punctatis, abdomine bifariam (sicut in speciebus alteris) reticulato, antennis palpis pedibusque pallide testaceis. Long. ·20.

Atlanta, Georgia. A specimen kindly given me by Col. Motschulsky. Larger in size and different in color from our other species.

172. P. lividus. Flavo-testaceus, nitidus, capite thoraceque punctis perpaucis notatis, hoc obovato, latitudine haud breviore, elytris thorace haud latioribus et paulo longioribus parce fortiter punctatis, abdomine rufo-piceo, reticulato. Long. ·15.

One specimen found on leaves of Salix, at Fort Yuma, California. Similar in appearance to *P. testaceus*, but the thorax is not transverse and has a much more sparse punctuation, and the elytra are shorter.

173. P. larvalis. Testaceus nitidus, capite thoraceque punctis paucis grossis sparsis notatis, hoc latitudine haud breviore obovato, elytris thorace nec latioribus nec longioribus, grosse haud dense punctatis, abdomine piceo, fortiter reticulato. Long. ·13.

Long Island, near New York, under moss. Differs from all the preceding species by the shorter and more coarsely punctured elytra.

DIANOUS Curtis.

174. D. chalybeus. Nigro-cœruleus nitidulus, subtiliter albo-pubescens, thorace subtilius punctato, elytris macula rotundata rubra utrinque ornatis. Long. ·19.

Marquette, Lake Superior, on the shore of the lake, under pieces of wood, in July. This species agrees precisely with Erichson's description of the European *D. cœrulescens*, but on comparison of specimens I find that in ours the punctures of the thorax are considerably smaller; the punctures of the elytra are also less densely placed, but in this respect the difference is by no means obvious.

STENUS Latr.

175. S. renifer. Niger opacus, fortiter dense punctatus, albo-pubescens, thorace latitudine longiore, elytris macula minuta lunata fulva, antennis fuscis, palpis pedibusque pallidis, femoribus apice late infuscatis. Long. ·22.

Fort Yuma, California. Very similar to *S. colon*, but the elytral spot is smaller and lunate in form, and the thorax is more narrowed at tip; in *S. colon* the spot is larger, and though also emarginate in front, is not lunate.

176. S. semicolon. Niger subænescens, subtiliter albo-pubescens, fortiter dense punctatus, thorace latitudine longiore, elytris gutta minuta rotundata fulva, antennis palpisque nigro-piceis, his articulo 1mo testaceo, pedibus ferrugineis. Long. ·15.

One specimen, Pennsylvania. Quite distinct by the above characters. Less slender in form than the other species with spotted elytra.

177. S. comma. Niger subænescens, subtilissime albo-pubescens, fortiter dense punctatus, thorace latitudine longiore, utrinque fere æqualiter angustato, elytris gutta parva rotundata fulva, palpis basi testaceis, antennis pedibusque nigris. Long. ·20.

Middle and Western States; not rare.

EDAPHUS Lec.

178. E. nitidus. Testaceus nitidus, glaber, lævis, capite biimpresso, thorace latitudine fere breviore, subcordato postice angustato, ante basin foveis 4 magnis insculpto; elytris stria suturali vix conspicua. Long. ·04.

Alabama and Louisiana; Col. Motschulsky and Dr. Schaum. This insect might be readily considered as a Pselaphide, allied to Euplectus, but the tarsi are four-jointed, and the abdomen is flexile. The antennæ and palpi are as in Euæsthetus, from which this genus differs principally by the smooth impunctured body.

MEGALOPS Er.

179. M. rufipes. Niger nitidus, capite grosse parce punctato, thorace latitudine paulo breviore, lateribus vix obsolete denticulatis, transversim biimpresso, calloque magno medio signato, depressionibus grosse punctatis, elytris fere biseriatim fortiter punctatis, macula humerali alteraque interna apicali rufis, antennis pedibusque rufo-testaceis. Long. ·09.

Atlanta, Georgia. The only specimen found by him I owe to the liberality of Col. Motschulsky.

OXYPORUS Fabr.

180. O. rufipennis. Niger nitidus, thorace obovato, latitudine paulo breviore, lateribus magis rotundatis, elytris bistriatis, læte rufis, margine basali anguloque externo nigris. Long. ·35—·43.

Western States. Allied to *O. major*, but the thorax is more rounded on the sides and destitute of transverse impressions, and the elytra are differently colored.

181. O. quinquemaculatus. Læte rufo-testaceus nitidus, capite nigro, macula magna postica rufo-testaceo, thorace subquadrato, lateribus antice rotundatis, postice fere parallelis, angulis posticis rectis late rotundatis paulo explanatis, macula magna laterali nigro-picea utrinque ornato, elytris bistriatis, macula communi scutellari anguloque externo nigro-piceis, abdomine segmentis anticis medio, ultimisque tribus totis nigris, antennis piceis articulis 1—3, ultimoque testaceis. Long. ·28.

Pennsylvania, York County; Dr. Melsheimer. The sides of prothorax beneath, the side pieces of the metasternum, and the last ventral segments are black. This species differs from all the others by the hind angles of the thorax, which, though rounded, are quite prominent and flattened.

BLEDIUS Steph.

182. B. armatus. Nigro-piceus, parum nitidus, capite subtiliter granulato, supra antennas alte obtuse carinato, vertice tuberculo nitido canaliculato munito, thorace subtiliter granulato, parce haud profunde punctato, elytris sat dense punctatis nitidis, lateribus late indeterminate obscure piceo-rufis, antennis pedibusque piceo-rufis, coxis nigro-piceis. Long. ·20—·25.

San Francisco, California. Resembles the next two species, but is readily distinguished by the characters above noted. Specimens very nearly resembling those found at San Francisco have been found in Arizona and Nebraska, and I am inclined to refer them to the same species, and to regard it as the *Oxytelus armatus* described by Say from immature specimens.

183. B. fumatus. Nigro-piceus, subnitidus, capite punctis paucis parvis notato, subtiliter granulato, supra antennas breviter elevato, thorace canaliculato, fortiter parce punctato, elytris sat dense punctatis, lateribus late rufescentibus, abdomine rufo-piceo, ano pallidiore, antennarum basi coxis pedibusque obscure rufis. Long. ·25.

Western States. The absence of the tubercle at the middle of the head distinguishes this from *B. armatus.*

184. B. semiferrugineus. Capite thoraceque nigro-piceis, rude punctatis, hoc canaliculato, illo supra antennas breviter alte elevato, fovea parva occipitali notato, elytris sat dense punctatis, ferrugineis, basi suturaque nigricantibus, abdomine antennarumque basi rufo-piceis, pedibus testaceis. Long. ·20.

Middle States. The thorax is more convex and rounded than in the two preceding species, and much more coarsely punctured.

185. B. flavipennis. Capite nigro-piceo, granulato haud punctato, supra antennas elevato, fovea minuta occipitali notato, thorace rufo-piceo lateribus antice haud rotundatis, subtiliter canaliculato, granulato parce haud profunde punctato, elytris flavis sutura nigricante, nitidis parce punctatis, abdomine nigro-piceo, segmentis duobus ultimis pallidis, antennis basi ferrugineis, pedibus testaceis. Long. ·17.

San Diego, California; in salt marsh.

186. B. analis. Rufus, ano sutura capite thoraceque nigris; capite utrinque subelevato, et parce subtiliter punctato, thorace polito profunde punctato, subtiliter canaliculato, lateribus late rotundatis, elytris sat dense punctatis; metasterno nigro. Long. ·16.

Illinois. The last two abdominal segments are black.

187. B. nitidicollis. Nigro-piceus, capite utrinque subelevato, et parce punctulato, thorace latitudine fere breviore lateribus late rotundatis, nitido profunde punctato, vitta dorsali lævi, elytris obscure ferrugineis, basi et sutura infuscatis, modice punctatis, antennis pedibusque ferrugineis. Long. ·14.

One specimen; New York.

188. B. diagonalis. Niger brevissime pubescens, capite lateribus breviter elevato, thorace latitudine subbreviore, lateribus rotundatis, subtiliter parce punctato, et subtiliter canaliculato, elytris dense subtiliter punctatis, ferrugineis, macula magna nigra triangulari communi a basi fere ad apicem extensa, antennis piceis, basi pedibusque ferrugineis. Long. ·20.

One specimen found at San Diego, California, in salt marsh.

189. B. ornatus. Niger brevissime pubescens, capite thoraceque opacis, hoc latitudine subbreviore lateribus rotundatis, obsolete punctulato, subtiliter canaliculato, elytris dense subtiliter punctatis, margine laterali maculaque externa apicali albidis, antennis crassiusculis piceis, pedibus testaceis. Long. ·18.

One specimen, San Francisco, California. The spot extends inwards from the outer angle and forms a rounded lobe to the white lateral margin.

190. B. divisus. Niger brevissime pubescens, capite thoraceque opacis haud dense subtiliter punctatis, illo lateribus parum elevatis, hoc lateribus rotundatis, basi breviter sinuatis, subtiliter canaliculato, elytris confertim punctatis, extrorsum diagonaliter pallidis, antennis pedibusque nigro-piceis, tibiis basi pallidoribus. Long. ·14.

Platte River Valley, one specimen; Point Keweenaw, Lake Superior. In the specimens from the latter locality the pale sides of the elytra are not limited by a diagonal line from the humerus nearly to the apex, but are narrower and defined by a curved line. I cannot, however, perceive any difference in form or sculpture to warrant me in considering them as indicating a different species. In one specimen the elytra are pale, dusky only at the base, and the abdomen is piceous, with each segment annulate with black, and marked with a medial blackish spot. It is possible that *Oxytelus fasciatus* Say may be a variety of this species.

191. B. annularis. Nigro-piceus, capite opaco, utrinque parum elevato et parce punctato fovea occipitali notato, thorace lateribus rotundatis, vage haud profunde punctato, subtiliter canaliculato, elytris fortiter punctatis, obscure ferrugineis, abdomine sæpius rufo-piceo, nigro-annulato, apice nigro, antennis pedibusque ferrugineis. Long. ·15—·18.

Middle and Western States, and Lake Superior.

192. B. ruficornis. Niger, capite opaco, vage punctulato, fovea occipitali nulla, thorace lateribus rotundatis, opaco, vage profunde punctato, subtiliter canaliculato, elytris densius punctatis, nigro-piceis, apice rufescentibus, antennis piceis, basi pedibusque ferrugineis. Long. ·21.

One specimen, San Francisco; Mr. Henry N. Bolander. Re-

sembles the preceding species, but the elytra are more finely and densely punctured. An entirely similar specimen was given me by Mr. Ulke, as found in Canada.

193. B. suturalis. Niger, capite opaco, fovea occipitali notato, thorace lateribus rotundato, canaliculato, parce haud profunde punctato, elytris profunde punctatis, pallidis basi suturaque nigricantibus, antennis piceis basi pedibusque testaceis. Long. ·12.

Banks of the Gila River, Arizona.

194. B. basalis. Niger, capite thoraceque opacis, illo parce punctulato, hoc subtiliter haud dense punctato, canaliculato, lateribus antice subparallelis late rotundatis, elytris subtiliter punctatis, albidis margine basali nigricante, antennis piceis basi testaceis, femoribus piceis, tibiis tarsisque testaceis. Long. ·10.

Coney Island, New York, in salt marsh; abundant. Varies with the suture also blackish.

195. B. opaculus. Nigro-piceus opacus, brevissime pubescens, capite thoraceque parce punctulatis, hoc haud canaliculato, lateribus antice fere parallelis, elytris dense subtiliter punctato-rugosis, testaceis basi suturaque infuscatis, antennis piceis, pedibus piceo-testaceis, mandibulis testaceis elongatis medio dente parvo armatis. Long. ·13.

Coast of Maine; Mr. W. Stimpson. Quite distinct by its sculpture from all others known to me.

196. B. forcipatus. Niger, brevissime pubescens, capite thoraceque opacis, parce punctulatis, hoc subtiliter canaliculato, lateribus fere parallelis, elytris pallidis basi suturaque infuscatis, subtiliter punctatis, antennis fuscis, basi pedibusque testaceis, mandibulis testaceis, elongatis dente acuto medio armatis. Long. ·08.

Fort Yuma, California. This and the preceding species are remarkable for the length of the mandibles.

HAPLODERUS Steph.

197. H. linearis. Elongatus depressus, piceus nitidus, capite parce punctato, occipite breviter canaliculato, thorace latitudine sesqui breviore, irregulariter parce punctato, longitudinaliter vage biimpresso, vitta dorsali lævi, elytris piceo-testaceis profunde punctatis, pedibus testaceis. Long. ·12.

California and Oregon. The thorax is but slightly narrowed behind.

198. H. laticollis. Piceus depressus, subtiliter pubescens, capite biimpresso, thorace latitudine sesqui breviore postice fortiter angustato, dense punctulato, margine explanato, disco fortius curvatim biimpresso, postice subcarinato, elytris profunde punctatis, pedibus piceo-testaceis. Long. ·10.

Southern States; Dr. C. Zimmermann.

LESTEVA Latr.

199. L. biguttula. Nigro-picea, pubescens, capite biimpresso, thoraceque confertim subtiliter punctatis, hoc latitudine haud breviore subcordato, ante basin vage transversim impresso, disco obsolete bifoveato, elytris confertim subtiliter punctatis, piceis macula obliqua testacea ante medium utrinque ornatis, limbo suturali et apicali pallidiore, ore antennarum basi pedibusque testaceis. Long. ·11.

North shore of Lake Superior.

200. L. pallipes. Nigra nitida, pubescens, capite biimpresso thoraceque haud dense punctatis, hoc convexo subcordato, pone medium vage biimpresso, impressionibus postice arcuatim conjunctis, elytris subtiliter haud dense punctatis, antennis piceis, basi pedibusque flavo-testaceis. Long. ·11—·14.

Pennsylvania and Maryland; rare.

201. L. picescens. Piceo-testacea pubescens, capite nigro biimpresso, parce punctulato, thorace subcordato, parce punctulato, elytris subtiliter punctatis, piceis limbo omni maculaque obliqua piceo-testaceis, ventre piceo-testaceo apice obscuro, antennarum basi pedibusque flavo-testaceis. Long. ·15.

Alabama; Prof. S. S. Haldeman.

ACIDOTA Steph.

202. A. seriata. Nigro-picea nitida, thorace lateribus magis rotundatis, late marginatis piceis, fortiter punctato, vitta dorsali angusta abbreviata lævi parum distincta, elytris fortiter seriatim punctatis, antennis pedibusque rufis, abdomine parce punctato. Long. ·21.

Lake Superior, under pieces of wood and stone on the shores; sometimes very abundant: smells very offensively. This species agrees with Erichson's description of the European *A. crenata*, but I have not compared specimens.

203. A. tenuis. Picea nitida, capite thoraceque parce subtiliter punctatis, hoc latitudine breviore, antice parum angustato, lateribus late

rotundatis ante medium postice depressis, elytris confertim subtiliter punctatis, limbo apicali pallidiore, antennis pedibusque rufis, abdomine parce punctulato. Long. ·15.

One specimen, north-shore of Lake Superior. The disc of the thorax is broadly and uniformly convex in front, but a little before the middle is a lateral impression which flattens the margin from that point almost to the base: at the middle just in front of the base is a very vague scarcely discernible curved impression.

204. A. patruelis. Elongata, picea, fortiter punctata, thorace latitudine haud breviore, antice paulo angustato, lateribus modice rotundatis fortiter marginatis subtiliter subrepandis, elytris planiusculis late marginatis, abdomine subtiliter rugose punctulato, antennis pedibusque piceis. Long. ·12—·15.

North side of Lake Superior. The first joint of the hind tarsi is not conspicuously longer than the others, and I am by no means convinced that this species is properly referred to the present genus. The lateral margin of the thorax is very finely undulated, giving a slightly repand appearance.

AMPHICHROUM Kraatz.

205. A. floribundum. (Mas) nigro-piceum nitidum, capite thoraceque parce subtiliter punctatis, hoc latitudine paulo breviore, lateribus rotundatis, margine fortiter depresso testaceo postice paulo latiore, ante basin transversim impresso et parce punctato, elytris subtilius modice punctatis, umbra humerali testacea ornatis, abdomine lævi, antennis pedibusque piceis, illis basi testaceis. Long. ·20.

Femina, antennis, pedibus, thorace elytrisque testaceis his sutura infuscata.

San Francisco, California; on Spiræa, abundant. Resembles in form *A. testaceum*, but the head and thorax are shining and distinctly punctulate, and the thorax is more convex.

TRIGONODEMUS Lec.

Mandibulæ breves muticæ; palpi maxillares articulo ultimo præcedente fere duplo longiore; antennæ articulis 2—4 tenuibus, 3io longiore, 5—11 abrupte majoribus rotundatis; tibiæ parce spinulosæ, anticæ infra medium intus late emarginatis; tarsi postici tibiis duplo breviores, articulo 1mo sequentes duos æquante.

This genus is founded on a very rare insect of the Southern States, which resembles in form the anomalous European genus

Trigonurus Muls., with which I should associate it but for the presence of very distinct ocelli. The head is narrow, with two deep oblique impressions, at the hinder end of which, on a line with the posterior limit of the eyes, are the ocelli. The thorax is gradually widened behind, the anterior angles rounded, the posterior ones rectangular; the base is truncate. The elytra are wider than the thorax, very long, leaving exposed only two dorsal segments, and broadly rounded at tip: they have each 9 punctured striæ, and the alternate intervals have a few distant punctures. The abdomen is acute at tip.

206. T. striatus. Nigro-piceus, capite parce thorace fortiter haud dense punctato, disco utrinque oblique impresso, lateribus rufo-testaceis postice explanatis, elytris profunde striato-punctatis, vitta rufo-testacea a humero fere ad apicem extensa, antennarum basi pedibusque testaceis. Long. ·18.

One specimen, given me by Dr. C. Zimmermann. The sutural stria curves around the tip of the elytra and runs into the outer margin, the 2d unites with the external stria (9th), the 3d with the 4th, and the 5th with the 8th, enclosing the extremities of the 6th and 7th.

MICRALYMMA Westwood.

207. M. stimpsonii. Nigrum fere opacum, punctulatum, thorace latitudine breviore, vitta angusta dorsali impunctata, elytris thorace haud longioribus, abdomine latiore, antennis articulo 3io tenui sequente longiore. Long. ·12.

Coast of Maine; collected by my friend Wm. Stimpson, to whom I dedicate it as a slight acknowledgment of his most valuable researches in marine invertebrate zoology.

This species is twice the size of the Greenland species, *M. brevilingue,* and is readily distinguished by its dull, equably punctulate surface, and the thinner 3d joint of antennæ. The thorax is destitute of impressions.

CORYPHIUM Steph.

208. C. pallidum. Fusco-testaceum fortiter punctatum, thorace latitudine haud breviore, postice parum angustato lateribus serrulatis, elytris fusco pallidoque variegatis. Long. ·12.

Kansas, one specimen. The fuscous marks of the elytra consist of a sinuated vitta extending from the humerus to the tip near the suture; the external margin is also dark.

209. C. guttatum. Nigrum, fortiter punctatum, thorace latitudine haud breviore, postice modice angustato, lateribus obsolete serrulatis, callo dorsali pone medium lævi, elytris gutta rotundata pone medium margineque apicali rufo-testaceis; antennis pedibusque rufis. Long. ·10.

Southern States.

210. C. notatum. Nigrum fortiter punctatum, thorace latitudine haud breviore, postice paulo angustato, lateribus serrulatis, callo postico dorsali; elytris gutta minuta ad medium margineque angusto apicali rufo-testaceis; antennis pedibusque rufo-testaceis. Long. ·10.

One specimen, Pennsylvania. Differs from the preceding by the spot being smaller and not posterior to the middle of the elytra. The dorsal segments of the abdomen in all the species are finely punctulate.

PROTEINUS Latr.

211. P. parvulus. Niger nitidulus subtiliter pubescens, elytris piceis confertim punctulatis, margine apicali pallidiore, antennarum articulis duobus primis pedibusque testaceis. Long. ·05.

Lake Superior. Similar in size and form to *P. basalis*, but the base of the elytra is not reddish.

MEGARTHRUS Steph.

212. M. excisus. Longiusculus, piceus, confertim punctatus, thorace canaliculato latitudine plus duplo breviore, antrorsum angustato, lateribus late rotundatis subrepandis, ad basin rotundatim emarginatis, angulis posticis minutis rectis, antennarum articulo primo pedibusque piceo-testaceis. Long. ·10.

Lake Superior, one specimen. Narrower than *M. americanus*, with a differently shaped thorax.

ISOMALUS Er.

213. I. pallidus. Testaceo-rufus nitidus, capite thorace elytrisque parce subtiliter punctulatis, thorace obovato, subtilissime canaliculato, utrinque oblique vage impresso, in margine apicali utrinque bifoveato, abdomine antice infuscato, segmentis singulis utrinque 2 vel 3 punctatis. Long. ·14.

Pennsylvania, Lancaster Co., in ants' nests; very rare.

214. I. fasciatus. Niger nitidus, lævis, thorace obovato, lateribus obsolete denticulatis late oblique biimpresso, in margine apicali utrinque bifoveato, elytris flavis macula scutellari limboque externo et apicali nigris, subtus nigro-piceus, antennis pedibusque ferrugineis. Long. ·10.

Valley of Gila River, Arizona; under bark of cotton-wood, abundant.

215. I. nigrellus. Niger, nitidus, subtiliter strigosus, capite bifoveato, thorace latitudine longiore, fere ovali, lateribus late rotundatis, disco vage et late biimpresso, linea tenui dorsali lævi, in margine apicali utrinque plica minuta externa, elytris parce subtilissime punctulatis. Long. ·10.

California, at San Jose and Fort Tejon; under oak bark.

HYPOTELUS Er.

216. H. picipennis. Depressus, nigro-piceus subopacus, punctatus, thorace latitudine breviore, subquadrato postice paulo angustato, lateribus late rotundatis, vage impresso, linea tenui dorsali lævi, angulis posticis rectis, elytris anoque piceo-testaceis, antennis pedibusque ferrugineis. Long. ·13.

Middle States and Kansas; under bark, rare.

LISPINUS Er.

217. L. rufescens. Testaceo-rufus nitidus, capite inter oculos foveis duabus parvis impresso, thorace elytrisque parce subtilissime punctulatis, hoc subtiliter canaliculato, et versus angulos posticos rectos breviter impresso. Long. ·12.

Alabama, at Mobile; Col. Motschulsky.

218. L. obscurus. Nigro-piceus nitidus, thorace elytrisque haud dense subaciculatim punctatis, illo postice vix angustato, ad angulos posticos rectos longius impresso, elytris ad basin utrinque profunde impressis, abdomine subtiliter parce punctato, ano rufo-piceo, antennis pedibusque rufis. Long. ·12.

Valley of Colorado and Gila River, Arizona, under cottonwood bark.

219. L. californicus. Nigro-piceus, capite thoraceque subtiliter punctatis, hoc pone medium arcuatim impresso, latitudine subbreviore lateribus late rotundatis, ad angulos posticos rectos vage explanato, elytris subtiliter punctulatis, et longitudinaliter rugosis basi utrinque foveatis, abdomine obsolete subtilissime punctulato, pedibus piceis. Long. ·11.

California, at San Jose; under oak bark.

220. L. tenuis. Niger subnitidus, valde elongatus, parce obsolete subtilissime punctulatus, thorace latitudine haud breviore, lateribus late rotundatis, linea dorsali lævi, versus angulos posticos rectos leviter impresso, antennis pedibusque obscure rufis. Long. ·09.

Southern States. Smaller and more slender than the preceding species.

MICROPEPLUS LATR.

221. M. cribratus. Nigerrimus, thorace multicellulato lateribus medio angulatis, elytris costis utrinque tribus sutura margineque acute elevatis, interstitiis rude striatis et punctatis. Long. ·08.

Georgia; rare. The cells of the thorax are equal in size and somewhat irregular; the elytral costæ are sinuate, between the sutural and the first dorsal is a single stria, between the others are two approximate striæ and an intermediate ridge. The dorsal segments are strongly tricostate and widely margined.

222. M. sculptus. Nigerrimus, thorace multicellulato lateribus valde rotundatis, elytris costis utrinque quatuor sutura margineque acute elevatis, interstitiis planis politis, lævibus. Long. ·06.

Georgia, under pine bark. Smaller than the preceding, with the sides of the thorax not angulated, and the elytral interstices smooth; the dorsal segments, as in it, are strongly tricostate, and widely margined.

HISTER LINN.

223. H. (Psiloscelis) **subopacus.** Oblongus, parum convexus, niger subopacus, confertim punctatus, thorace utrinque bistriato, versus latera grossius punctato, elytris striis utrinque 6 marginalique integris, marginali interna obsoleta, epipleuris concavis bistriatis; tibiis anticis 5-dentatis. Long. ·30.

Nebraska; Mr. Ulke. Narrow, flatter, and less opake than *H. planipes*, with the inner thoracic stria much deeper.

224. H. semisculptus. Oblongus niger nitidus, thorace lateribus subtiliter marginato, et stria laterali a margine remota insculpto, elytris striis internis tribus brevissimis, prope apicem sitis, externis tribus

integris impunctatis, marginali ad medium postice abbreviata; epipleuris modice excavatis, impunctatis, stria laterali profunde impressa; tibiis anticis fortiter 5-dentatis. Long. ·22.

Illinois; Mr. M. Schuster. Resembles in form and sculpture *H. civilis*, but belongs to a different division of the genus. It is allied to *H. marginicollis*, but is readily known by the marginal stria of the elytra being obliterated behind the middle, and the internal three dorsal striæ being very short.

225. H. perplexus. Ovali-oblongus, niger nitidus, subtiliter punctulatus, thorace stria laterali a margine remota, externaque brevi ad angulo antico valde approximata, elytris striis dorsalibus sex integris leviter punctatis, internis duabus antice arcuatim conjunctis, marginali obliterata; epipleuris profunde bistriatis et leviter punctatis, tibiis anticis 3-dentatis. Long. ·20.

Middle and Western States, rare. Allied to *H. americanus*, and, like it, having the mesosternum truncate; it differs, however, by its larger size and more oblong form, as well as by being distinctly punctulate, both above and beneath.

226. H. (Platysoma) **æquus.** Elongatus, parallelus depressus, niger nitidus, thorace dense subtiliter punctato, elytris punctulatis striis profundis, integris 2nda antice subobliterata; tibiis anticis 4-dentatis, mesosterno stria marginali antice obliterata. Long. ·12.

Southern States, rare. This species is not wider than *H. parallelus*, but is as depressed as *H. lecontei*. The mesosternum is deeply emarginate, and the stria, though bending around at the sides, is not distinct at the middle. Besides the apical tooth, the middle tibiæ have two small teeth at the middle, and the hind tibiæ a single one, as in *H. parallelus*.

SAPRINUS Leach.

227. S. seminitens. Ovalis convexus, æneus, medio nitidus, capite linea transversa profunda, superiore arcuata obsoleta, thorace rugose punctato, plaga basali transversa lævi, elytris stria suturali integra cum dorsali interna arcuatim conjuncta, dorsalibus extrorsum sensim longioribus, externa sinuata fere integra, marginali interna utrinque valde abbreviata, externa integra, a medio postice confertim punctatis, punctis ultra striam dorsalem externam haud extensis; tibiis anticis fortiter dentatis, tibiis tarsisque obscure rufis. Long. ·13.

Nebraska; Mr. Ulke. Related to *S. sphæroides*, but the

smooth space of the thorax is much smaller, and the punctured portion of the elytra much larger.

PTILIUM Er.

228. P. canadense. Elongato-ovale, nigrum opacum sericeo-pubescens, dense subtiliter punctatum, thorace latitudine duplo breviore, antrorsum paulo angustato, lateribus rotundatis, elytris margine apicali angusta flavo-testacea, antennis piceis, pedibus testaceis. Long. ·02.

Lake Superior.

229. P. fungi. Minutissimum, lineare, testaceum punctulatum pubescens, thorace latitudine paulo breviore, lateribus late rotundatis, elytris elongatis, apice rotundatis, antennis pedibusque flavis.

Mobile; Col. Motschulsky. This is the smallest Coleopteron known to me; it is scarcely more than 1-100th of an inch long.

230. P. testaceum. Ovale convexum, rufo-testaceum nitidum, parce fortius punctatum, capite thoraceque obscurioribus, hoc amplo, antrorsum angustato, elytris latiore, angulis posticis paulo productis, elytris postice infuscatis, apice late truncatis, abdomine brevioribus. Long. ·02.

Athens, Georgia, under pine bark. Resembles in form a Trichopteryx, but the hind coxæ are not laminate.

231. P. balteatum. Oblongum subelongatum, testaceum nitidum parce punctulatum et pubescens, thorace latitudine breviore, antrorsum subangustato, lateribus rotundatis, angulis posticis obtusis, elytris ante apicem transversim infuscatis, abdomine paulo brevioribus. Long. ·02.

Athens, Georgia; one specimen. Differs from the next species by being finely instead of coarsely punctured.

232. P. brunneum. Oblongum subelongatum, piceum nitidum, parce fortiter punctatum, et pubescens, thorace latitudine sesqui breviore antrorsum vix angustato, lateribus rotundatis, angulis posticis obtusis, elytris basi rufescentibus, margine apicali testaceo, abdomine parum brevioribus, antennis pedibus abdomineque testaceis. Long. ·02.

Also found at Athens, Georgia.

233. P. pini. Pallide testaceum, subtiliter punctatum, pubescens, thorace latitudine breviore lateribus late rotundatis, elytris abdomine multo brevioribus, oculis minutissimis nigris. Long. ·015.

Athens, Georgia, under pine bark. The eyes are exceedingly small and situated on the under surface of the head. The abdo-

men projects beyond the elytra a distance equal to more than one-half the length of the latter.

234. P. quercus. Pallide testaceum depressum, subtiliter punctatum et pubescens, thorace latitudine breviore, postice subangustato, lateribus rotundatis, elytris abdomine multo brevioribus, oculis minutissimis, nigris. Long. ·015.

Athens, Georgia; under oak bark. Resembles closely the preceding, but seems to differ by the thorax being more distinctly narrowed behind.

235. P. nigrovittis. Lineare, pallide testaceum subtiliter punctulatum nitidum, thorace latitudine breviore, postice subangustato, elytris abdomine paulo brevioribus, lineolis obscuris duabus pone medium utrinque ornatis; oculis mediocribus nigris. Long. ·015.

New Orleans; Col. Motschulsky.

PTENIDIUM Er.

236. P. foveicolle. Elongato-ovale convexum, nigrum vel piceum nitidum læve, thorace latitudine breviore, postice subangustato, ad basin utrinque profunde bifoveato, antennis pedibusque testaceis. Long. ·025.

New Orleans; Dr. Schaum.

237. P. lineatum. Elongatum convexum, testaceum nitidum, elytris ovalibus sericeo-pubescentibus, utrinque nigro-bivittatis, thorace minus subtiliter punctato, latitudine paulo breviore, antrorsum subangustato. Long. ·015.

Mobile, Alabama; Col. Motschulsky. Possibly not of this genus, but the single specimen before me does not permit an examination of the under surface.

OLIBRUS Er.

238. O. vittatus. Ovalis convexus, supra niger nitidus, thorace lateribus rufescentibus, elytris vix obsoletissime seriatim punctulatis, vitta lata a humero fere ad apicem extensa rufo-testacea, striis internis duabus haud profundis, subtus rufo-testaceus. Long. ·10.

Middle States; Mr. Ulke. Resembles *O. bicolor*, but is a little broader.

LOBIOPA Er.

239. L. setulosa. Late ovalis, valde depressa, testacea supra scabra opaca, setis brevissimis vestita, thorace elytrisque maculis minutis nigris variegatis, his substriatis. Long. ·20.

Illinois. Broader and more depressed than *L. undulata,* and quite different by the dull color and erect short bristles which clothe the upper surface. The body beneath is shining testaceous and finely punctured.

240. L. guttulata. Elongato-elliptica, fusca, testaceo-variegata, nitida, pube subtili haud dense vestita, thorace lateribus late explanatis testaceis, elytris margine anguste reflexo testaceo, macula pallida communi transversa dentata ornatis. Long. ·23.

Illinois; Mr. Ulke. Much narrower than our other species, and clothed with fine pubescence, not with erect hairs. The disc of the thorax is fuscous, scarcely variegated, and the broadly depressed sides are testaceous; the elytra are variegated with fuscous and testaceous, with the narrow lateral margin testaceous; there are some small scattered pale spots, and a large common transverse dentated pale spot extending half way from the margin across the suture and a little behind the middle. The head and antennæ are fuscous, the under surface rufo-testaceous.

PSILOPYGA Lec.

241. P. nigripennis. Latius ovalis, convexa, læte rufa nitida, capite thoraceque sat dense punctatis, elytris nigris punctato-striatis, interstitiis parce subtilius punctatis. Long. ·20.

York County, Pennsylvania; Dr. Melsheimer. Broader than *P. histrina;* apart from color it differs by the thorax being uniformly punctured, without any intermixture of larger points, by the striæ of the elytra being less impressed, with the punctures of the intervals larger and more distant.

CYBOCEPHALUS Er.

242. C. nigritulus. Rotundatus, globatilis, niger nitidus lævis, antennis pedibusque piceo-testaceis. Long. ·04.

Georgia. Resembles a minute Agathidium, but easily distinguished by the characters of the family.

IPS Fabr.

243. I. cylindricus. Cylindricus, elongatus, niger nitidus, subtilius punctatus, thorace capite haud latiore, latitudine longiore, lateribus rectis, fere parallelis, postice paulo convergentibus, elytris macula magna humerali alteraque utrinque transversa paulo pone medium obscure sanguineis. Long. ·28.

Nebraska; Mr. Ulke. A very remarkable species, with a singularly elongate form. The humeral spot does not touch either the base or the margin; the posterior spot is about equally separated from the side margin and the suture.

HESPEROBAENUS Lec.

244. H. rufipes. Elongatus, niger nitidus, capite thoraceque grosse punctatis, hoc vitta dorsali lævi, lateribus subtiliter repandis, elytris pone basin oblique vage impressis, striis tenuibus profunde punctatis, pygidio fortiter punctato, pedibus antennisque obscure ferrugineis. Long. ·12.

Southern States; rare.

NEMOSOMA Latr.

245. N. cylindricum. Lineare cylindricum, nitidum, capite thoraceque subtilius punctatis, illo rufescente, hoc nigro, elytris nigro-piceis subtiliter striatim punctatis, interstitiis parce punctulatis, basi apiceque rufescentibus, subtus rufo-piceum, antennis pedibusque rufo-testaceis. Long. ·18.

Middle States. Quite different by its cylindrical form and faintly striate elytra from *N. parallelum*. Varies in color, being sometimes nearly black, with the base of the elytra, the antennæ and feet reddish.

TEMNOCHILA Westw.

246. T. barbata. Fere cylindrica, nigra, capite thoraceque profunde fortiter punctatis, hoc postice sensim angustato, angulis posticis vix prominulis, elytris striis fortiter profunde punctatis, interstitiis subrugosis, uniseriatim subtiliter punctulatis; pedibus rufo-piceis, gula parce punctata et longe setosa, penecillo prope mentum fulvo piloso. Long. ·55.

Cape San Lucas; one specimen; Mr. Xántus. The sterna are very coarsely punctured. The small tuft of fulvous erect hair near the mentum is a very singular character.

COXELUS Latr.

247. C. guttulatus. Elongato-ovalis, nigro-piceus, opacus, setis pallidis variegatus, thorace latitudine duplo breviore, lateribus valde rotundatis serrulatis late depressis rufescentibus, elytris substriatis rugose granulatis, guttis parvis albo-setosis ornatis, antennis obscure ferrugineis. Long. ·20.

Middle and Southern States; not uncommon. The thorax in well preserved specimens has irregular stripes of diffused pale bristles; it is deeply emarginate in front, considerably rounded on the sides, and sinuous at the base; the posterior angles are obtuse and not rounded. The elytra are substriate with close rows of coarse punctures, and are besides roughened with intervening rugosities; the margin is finely serrate, and reddish; the round spots of pale gray bristles are not visible in badly preserved specimens.

DITOMA Ill.

248. D. laticollis. Nigro-picea opaca, oblonga subdepressa, pilis pallidis parce hispida, capite thoraceque scabris, hoc latitudine breviore antice paulo latiore, lateribus serratis ante medium rotundatis, fovea oblonga media excavato costaque utrinque tenui undulata ornato, elytris sutura costisque dorsalibus tribus elevatis, interstitiis biseriatim punctatis, humeris maculaque magna postica obscure rufis, antennis tibiis tarsis abdomineque piceo-rufis. Long. ·08.

New York; rare.

EUDESMA Lec.

Corpus elongatum cylindricum, elytris costatis. Antennæ 11-articulatæ, articulis duobus primis paulo crassioribus, 10 et 11 majoribus clavam formantibus, intermediis subequalibus. Sulci antennales obliqui, breves. Oculi parvi, subtransversi. Tibiæ filiformes, haud spinosæ, calcaribus parvis armatæ. Abdomen segmentis ventralibus haud emarginatis.

This genus is founded upon *Bitoma undulata* Mels., a very rare insect found in Pennsylvania. It is closely allied to Bitoma, but differs by the base of the antennæ being received in distinct oblique grooves beneath the eyes. The ventral segments of the abdomen are not emarginate, which is however also the case with all the species of Ditoma known to me.

249. Eu. undulata. Cylindrica elongata, atra opaca, confluentim punctata, pilis cinereis adspersa, ore rufo-piceo, thorace quadrato postice paulo angustato, lateribus rectis serratis, margine apicali et basali sinuato, costis duabus brevibus anticis alterisque duabus discoidalibus obtuse elevatis, elytris fasciis duabus undulatis cinereo-pilosis ornatis, margine sutura costisque utrinque tribus elevatis, interstitiis punctis quadratis biseriatim positis, antennis pedibusque obscure rufis. Long. ·20.

Bitoma undulata Mels. Proc. Ac. Nat. Sc. Phil. 2, 110.

Pennsylvania, York County. For the type of this interesting species I am indebted to Dr. Melsheimer. The portions of the elytra clothed with cinereous hair are reddish in color.

SYNCHITA Hellwig.

250. S. nigripennis. Elongata, obscure ferruginea, supra setis erectis brevibus pallidis haud dense vestita, capite thoraceque punctatis, hoc latitudine sesqui breviore, lateribus parum rotundatis ciliatis vix serrulatis, elytris nigro-piceis, striis fortiter crenatis. Long. ·08—·10.

Middle States; not very rare. A very distinct species.

LASCONOTUS Er.

251. L. pusillus. Elongatus depressus, piceus subnitidus, subtilissime parce pubescens, fronte late biimpressa, thorace punctulato, latitudine longiore, lateribus fere rectis marginatis, angulis rotundatis, dorso late excavato, utrinque et in medio carinato, lineisque duabus elevatis arcuatis ad apicem ornatis, elytris sutura margine costisque 4 utrinque elevatis, costa 1ma ante medium postice obsoleta, antennis pedibusque obscure ferrugineis. Long. ·10.

Southern States, Georgia and South Carolina; rare, under pine bark. The arcuated elevated line each side in the front part of the thorax touches the apical margin, and incloses the extremity of the longitudinal costa which limits the great dorsal excavation; this excavation is marked besides with a medial costa, which attains neither the apex nor the base.

AULONIUM Er.

252. Au. tuberculatum. Elongatum cylindricum, nigrum subnitidum, vertice bituberculato, thorace latitudine longiore parce punctulato, striis duabus versus latera insculpto, antice transversim excavato, cornubus duobus brevibus ad apicem et tuberculis duobus ante medium armato, elytris versus basin rufescentibus, parce punctulatis et subtiliter striatim punctatis, abdomine pedibus antennisque rufis, illo nigro-fasciato. Long. ·17.

Pennsylvania and Georgia; rare. The ventral segments are rufous, with the anterior margin of each segment black.

COLYDIUM Fabr.

253. C. nigripenne. Elongatum cylindricum, piceo-rufum nitidum, capite antice obsolete postice fortiter punctatum, medio obtuse carinatum, thorace parce fortius punctato, tristriato, elytris nigris costatis, interstitiis biseriatim fortiter punctatis. Long. ·15—·19.

Georgia and South Carolina; not rare. Rather less slender in form than *C. lineola* Say.

EULACHUS Er.

254. Eu. carinatus. Elongatus cylindricus, ater opacus, subtilissime parce pubescens, capite thoraceque granulato-punctatis, hoc latitudine longiore 4-costato, elytris rugosis acute costatis, interstitiis latis planis, remote bistriatim punctatis, ore antennis pedibusque obscure rufis. Long. ·13.

Upper part of Georgia; rare.

NEMATIDIUM Er.

255. N. filiforme. Valde elongatum lineare cylindricum, rufopiceum nitidum, capite thoraceque profunde haud dense punctatis, hoc latitudine plus duplo longiore, lateribus late sinuatis, elytris thorace plus sesqui longioribus, striato-punctatis, interstitiis vage punctatis et rugosis, apice oblique declivibus et utrinque vage sulcatis. Long. ·48.

North Carolina and Florida; Baron R. Osten Sacken. Remarkable for the extreme elongation of form.

OXYLAEMUS Er.

256. O. americanus. Elongatus cylindricus, ferrugineus nitidus, pilis erectis parcis vestitus, capite thoraceque parce grosse punctatis, elytris punctis grossis seriatim positis, tibiis anticis tridenticulatis. Long. ·11.

Middle States; rare. Pa., York Co., Dr. Melsheimer.

SOSYLUS Er.

257. S. costatus. Valde elongatus, niger subnitidus, capite thoraceque aciculato-punctatis, hoc latitudine sesqui longiore, postice sensim angustato, lateribus antice late rotundatis postice subsinuatis, angulis posticis rectis, elytris margine sutura costisque utrinque 3 elevatis, interstitiis latis subtilius haud dense punctatis. Long. ·18.

Southern States; Dr. C. Zimmermann. I take pleasure in correcting an error I formerly committed in considering this species as indicating a new genus of Colydiini, to which I gave the name of Pleuridium. The hind coxæ are widely separated, and although the general form of body is that of Colydiini, the genus must be placed, as has been properly done by Erichson, in Bothriderini. It differs, however, remarkably from Bothrideres, not only in the form of body, but by the anterior coxæ being contiguous, and by the first joint of the tarsi being very long. The structure of the buccal cavity is also very different from Bothrideres, and similar to that of Colydium, the mentum not being placed on a broad pedicel, and suddenly deflexed into a deep cavity as in Bothrideres.

ENDECTUS Lec.

258. E. nitidus. Elongatus, fusco-ferrugineus nitidus, capite fortiter punctato, thorace parce grosse punctatis, hoc linea dorsali lævi, lateribus marginatis haud sinuatis, elytris striis grosse punctatis. Long. ·15.

Georgia, under pine bark. Differs from *E. hæmatodes* by the form and punctuation of the thorax, and the interstices of the elytra being less elevated, and from *E. reflexus* by the thorax being more sparsely and irregularly punctured, with a distinct smooth dorsal line.

PYCNOMERUS Er.

259. P. sulcicollis. Elongatus, nigro-piceus nitidus, capite profunde punctato, thorace latitudine longiore, parce punctato, dorso profunde bisulcato, lateribus late rotundatis fortiter marginatis, elytris striis tenuibus, at foveis elongatis remotis impressis, antennis pedibusque obscure ferrugineis. Long. ·12—·15.

Georgia, under pine bark. The two thoracic grooves do not attain either apex or base, and the dorsal line between them is convex and elevated.

PHILOTHERMUS Aubé.

260. P. glabriculus. Elongato-ovalis, castaneus nitidus, fere glaber, thorace punctato, latitudine breviore, antrorsum angustato, lateribus late rotundatis, fortiter marginatis, elytris striis punctatis, interstitiis punctulatis, antennis pedibusque testaceis. Long. ·08—·11.

Middle and Southern States; not rare. The punctures of the elytra are in scarcely impressed striæ. In the male the thorax is broader and less rounded on the sides, and the elytra are slightly narrowed from the base. In the female the form is almost an elongate ellipse.

CERYLON Latr.

261. C. angustulum. Elongatum, castaneum, vel piceum, nitidum, thorace latitudine longiore, parum convexo, lateribus marginatis postice rectis antice rotundatis, parce fortiter punctato, elytris striis antice punctatis, antennis pedibusque pallidioribus. Long. ·07—·09.

Middle and Southern States. Closely allied to *C. unicolor*, but the thorax is less flattened, and somewhat more regularly narrowed in front.

CATOGENUS Westwood.

262. C. linearis. Castaneo-rufus nitidus, valde elongatus cylindricus, capite convexo punctato canaliculato, sulcisque duabus brevibus frontalibus insculpto, thorace latitudine sesqui longiore, parce punctato, postice sensim paulo angustato, elytris striis subtiliter punctatis, exterioribus fere obliteratis. Long. ·25.

Cape San Lucas, Lower California; Mr. Xántus. The spur of the anterior tibiæ is much longer than in *C. rufus.*

NARTHECIUS Lec.

263. N. grandiceps. Rufo-testaceus subnitidus, valde elongatus cylindricus, capite thorace longiore, aciculato, linea frontali impresso, supra oculos utrinque subtiliter carinato, thorace latitudine longiore, postice sensim angustato, lateribus omnino rectis, subtiliter punctato, linea laterali parum distincta notato, elytris thorace sesqui longioribus, remote striatis, interstitiis planis punctulatis et subtiliter pubescentibus. Long. ·12.

Pennsylvania, York Co.; Dr. Melsheimer; very rare. This singular insect differs from the other genera of the tribe by its cylindrical form. The head is longer and broader than the thorax; the eyes are small and not prominent; the antennæ are not longer than the head, and the last three joints are a little broader. The mandibles are long, curved, slender and prominent. The legs are very short. The elytra are shorter than the head and thorax together, and the lateral margin of the prothorax is obsolete.

TELMATOPHILUS Heer.

264. T. americanus. Elongatus ater, confertim subtiliter punctatus, cinereo-pubescens, thorace convexo, latitudine fere sesqui breviore, angulis anticis rotundatis, posticis rectis, lateribus subtiliter serratis, antennis pedibusque fusco-ferrugineis. Long. ·12.

Middle and Southern States, not common; found on plants near water. The elytra are very obsoletely striate.

LOBERUS Lec.

265. L. impressus. Elongatus, æneo-niger nitidus, parce subtilissime cinereo-pubescens, capite thoraceque parcius punctato, hoc convexo, latitudine plus sesqui breviore, lateribus marginatis late rotundatis, angulis anticis subrotundatis, posticis subrectis, ante basin sulco transverso profundo notato; elytris subtiliter striatim punctatis, interstitiis subtilissime punctulatis, ore antennis abdomine pedibusque piceo-rufis. Long. ·08—·10.

Middle, Southern and Western States; rare. This insect at first sight resembles a small Haltica of the division *Crepidodera.* The genus has the form and general characters of Telmatophilus, but differs by the 9th joint of the antennæ being as wide as the 10th, thus forming a distinct three-jointed club; in Telmatophilus the 9th joint is but little wider than the 8th, so that the club becomes more elongate than in Loberus. The elytral striæ also afford a good distinguishing mark between the two genera.

ANTHEROPHAGUS Latr.

266. A. convexulus. Elongato-ovalis, testaceus, subnitidus, flavopubescens, subtiliter confertim punctatus, thorace latitudine fere sesqui breviore, antrorsum paulo angustato, lateribus fere rectis, angulis anticis rotundatis, posticis rectis, dorso modice convexo, elytris vix obsoletissime striatis. Long. ·15.

One female from Canada; Mr. Ulke. Smaller, more convex and less pubescent than *A. ochraceus,* with the sides of the thorax less curved, and less strongly margined.

TOMARUS Lec.

267. T. pulchellus. Elongato-ovalis, convexus, piceus, vel piceorufus nitidus, capite thoraceque punctatis et subtiliter pubescentibus, hoc latitudine breviore lateribus rotundatis margine subrepando, fovea basali utrinque impresso, elytris subtilius punctatis, macula magna humerali fasciaque lata pone medium rufotestaceis vage definitis, antennis pedibusque rufo-testaceis. Long. ·07—·08.

Pennsylvania, Georgia, Illinois and Lake Superior; frequently found under stones in the spring. The mentum has a very large somewhat obtuse medial tooth, which is much more prominent than the lateral teeth. The thorax is slightly pubescent, and there are a few erect hairs towards the sides of the body, but not the pubescence that is observed in Cryptophagus and Paramecosoma, which this genus agrees in the insertion of the antennæ at the side of the front under the margin.

EPISTEMUS Stephens.

268. E. apicalis. Ovalis convexus, nigro-piceus nitidus, obsolete parce punctulatus, thorace angulis posticis subacutis, lateribus vix rotundatis subtiliter marginatis, elytris pone medium indeterminate rufo-testaceis, antennis pedibusque testaceis. Long. ·04.

Middle States; not rare. The prosternum in this genus is bistriate, and closely applied to the mesosternum, reminding one of the form seen in Acritus and many other Histeridæ.

HOLOPARAMECUS Curtis.

269. H. pacificus. Elongatus, testaceus nitidus, thorace cordato convexo, ante basin profunde transversim impresso, impressione versus medium latiore, elytris parce punctulatis, antennis 11-articulatis. Long. ·03.

Fort Yuma, California; under bark of cottonwood. The thoracic impression attains the sides and is not composed of foveæ.

LATHRIDIUS Ill.

270. L. liratus. Fusco-testaceus nitidus, capite fortiter punctato, vertice canaliculato, thorace latitudine longiore, medio sensim valde angustato, lateribus fortiter marginatis, disco punctato, bicarinato pone medium late profunde impresso, elytris ovatis thorace duplo latioribus convexis, ante medium impressis, striis profunde fortiter punctatis versus apicem minus profundis. Long. ·08.

New York and Canada; Mr. Ulke. A pretty species resembling *L. costicollis* Lec. from California, but with the thorax narrower and much more strongly constricted at the middle.

TRIPHYLLUS Latr.

271. T. ruficornis. Elongato-ovalis, convexus, nigro-piceus nitidus, haud subtiliter griseo-pubescens, fortiter sat dense punctatus, humeris obscure rufis, antennarum clava, tibiis tarsisque piceo-rufis. Long. ·13.

Middle, Southern and Western States; not rare. I have adopted the name under which I received it from Dr. Melsheimer.

BERGINUS Er.

272. B. pumilus. Elongatus niger opacus, scabro-punctatus, pube rigida cinerea minus subtiliter vestitus, thorace latitudine longiore,

lateribus late rotundatis subserratis, elytris obsolete 3- vel 4-costatis. Long. ·08.

Pennsylvania; Dr. Melsheimer. Resembles in form a Corticaria, but in sculpture is quite different. The elytra are feebly sulcate, leaving three or four traces of costæ on each.

MARGINUS Lec.

273. M. rudis. Elongato-ovalis parum convexus, nigro-fuscus, pube erecta fusca vestitus, capite thoraceque rude punctatis, hoc latitudine breviore, antrorsum angustato, lateribus rotundatis marginatis, angulis posticis rectis, elytris striis fortiter punctatis, parum impressis. Long. ·10.

Middle and Southern States; not rare. The genus differs from Diphyllus by the antennal club being three-jointed, and by the lateral lines of the thorax being obsolete, a mere trace of the outer one being seen near the base, and from Diplocœlus by the last mentioned character, as well as by the 11th joint of the antennæ being somewhat narrower than the 10th.

DIPLOCOELUS Guérin.

274. D. brunneus. Elongatus ovalis, parum convexus, nigro-fuscus, pube suberecta minus subtiliter vestitus, capite haud dense, thorace fortius punctato, latitudine fere duplo breviore, lateribus marginatis antice rotundatis, utrinque bisulcato et subtiliter tricarinato, elytris striis punctatis vix impressis, interstitiis subtiliter punctulatis, antennis pedibusque obscure ferrugineis. Long. ·14.

Middle States; rare. Dr. Melsheimer and Mr. Ulke.

DEARTHRUS Lec.

275. D. longulus. Elongatus, niger subnitidus, subtiliter cinereopubescens, sat fortiter haud dense punctatus, thorace latitudine plus duplo breviore antrorsum angustato, lateribus obliquis parum rotundatis, medio breviter subtiliter canaliculato, elytris thorace quadruplo longioribus, antennis pedibusque piceis, illis basi tarsisque pallidioribus. Long. ·12.

Georgia, Pennsylvania and Illinois; on plants. More elongate than any species of *Attagenus*, to which this genus is closely allied. Like as in *Attagenus*, the prosternum is truncate in front, but is very slightly prolonged behind the coxæ into a small point; the mesosternum is tolerably broad, declivous, with a fine short channel in front for the reception of the prosternal point. The antennæ are scarcely longer than the head, and have but 9 joints, of which the last three form an oval club. The under surface of the prothorax is vaguely excavated each side for the reception of the anterior tibiæ and the antennæ, as in Attagenus.

PEDILOPHORUS Steff.

276. P. æneolus. Apterus, ovalis, convexus, antice oblique attenuatus, postice obtusus, nigro-virescenti æneus, punctatus, pilis albidis minus subtiliter vestitus, subtus piceus cinereo-pubescens, tarsorum articulo 3io haud lobato. Long. ·17.

Nebraska; Mr. Ulke. Oval, convex, above dark greenish bronzed, uniformly but not closely punctured, and clothed with coarse white hairs; thorax twice as wide at the base as its length, strongly narrowed in front, sides oblique, scarcely rounded. Scutellum clothed with white hair; elytra oval, wider than the thorax, obtusely rounded behind; wings none. Beneath piceous, densely punctured, covered with brownish-gray pubescence; tarsi simple.

Quite different in form from our other species.

LIMNIUS Müller.

277. L. ovalis. Ovalis convexus, nigro-æneus, pube flava parce vestitus, thorace dense punctato, stria basali utrinque profunda impresso, elytris profunde striatim punctatis, interstitiis obsolete punctulatis, vitta obscure testacea sæpe interrupta ornatis, antennis testaceis. Long. ·10.

Pennsylvania; Prof. Haldeman, and Mr. E. D. Cope. Resembles in form and color *L. fastiditus* Lec., but the elytral stripe is much wider and less definite in form, the body is wider and the sides of the thorax are more distinctly rounded.

HETEROCERUS Fabr.

278. H. gnatho. Fuscus, pube densa sericea fusca vestitus, capite thoraceque pilis longioribus pubescentibus, hoc latitudine triplo breviore, lateribus valde rotundatis testaceis, angulis posticis marginatis, elytris obsolete striatis, dense subtiliter punctulatis, testaceis maculis undatis fuscis variegatis, pedibus testaceis. Long. ·18—·25.

Mas, labro producto capite vix breviore, basi utrinque late lobato, apice emarginato, mandibulis elongatis tenuibus elytris thorace angustioribus, a basi paulo angustatis. Fem. labro antice rotundato, ad apicem emarginato.

Colorado River, California. The females appear to vary in form, some (possibly the representatives of the strong minded class in our own species) resemble very closely the male in form; usually, however, the thorax is not wider than the elytra, and the latter are parallel on the sides, and obtusely rounded posteriorly; the color of the under surface is sometimes fuscous, with the sides of the pectus and abdomen testaceous, but sometimes becomes entirely testaceous. The testaceous margin and usual bands of the elytra are so dilated that the ground color appears testaceous, with three irregular angulated fuscous fasciæ.

279. H. labiatus. Nigro-fuscus, pube densa sericea griseo-fusca vestitus, capite thoraceque pilis longioribus pubescentibus, hoc latitudine triplo breviore, lateribus valde rotundatis, angulis posticis marginatis, elytris obsolete striatis dense subtiliter punctulatis, margine tenui lineolisque pluribus fasciatim positis testaceis ornatis, pedibus testaceis, tibiis posterioribus infuscatis. Long. ·25.

Mas, labro valde producto, basi utrinque late lobato, apice emarginato, mandibulis elongatis, tenuibus, elytris thorace angustioribus a basi paulo angustatis.

One specimen; San Diego, California. This species exactly resembles in form and characters *H. gnatho*, but the thorax and body are entirely brownish-black, and the pale markings of the elytra are very narrow; the usual bands are formed by the confluence of narrow linear spots, one of which attains the base, and another is placed just before the tip. The mandibles, as in the preceding species, are ferruginous, edged with black.

280. H. ventralis. Mels. Proc. Acad. Nat. Sci. 2, 99. *H. labiatus* Kiesenwetter, Linn. Ent. 5, 282.

Common in the Middle States and on the Upper Mississippi. The male has the labrum very large, with the apex prolonged and emarginate, and the mandibles long and slender. Dr. Melsheimer's species is known to me by actual comparison; Kiesenwetter's only by description, with which my specimens agree.

281. H. luteolus. Testaceus, pube sericea subtili vestitus, thorace latitudine triplo breviore, lateribus valde rotundatis, angulis posticis submarginatis, elytris vix obsolete striatis, densissime punctulatis. Long. ·10.

Banks of the Colorado River, California, near Fort Yuma. Still smaller than *H. limbatus* Kies., and more finely punctured.

OCHODAEUS Lec.

282. O. frontalis. Ovalis convexus, ferrugineus, breviter fulvo-setosus, punctatus, clypeo antice transversim sulcato, capite inter antennas tuberculo parvo armato, inter oculos transversim paulo elevato, thorace scabro-punctato, postice canaliculato elytris striato-punctatis, interstitiis modice punctatis, haud elevatis. Long. ·30.

Texas; Mr. Ulke. Very distinct from our other species by the subacute frontal tubercle. The form of body is as in *O. simplex.* The mandibles appear to be destitute of teeth.

DIPLOTAXIS Kirby.

283. D. puberulus. Elongato-oblongus, castaneus, pube erecta helva vestitus, capite thoraceque confertim punctatis, clypeo marginato, antice subtruncato, thorace latitudine plus duplo breviore, antice vix angustato, lateribus rotundatis angulis omnibus obtusis, elytris fortius punctatis, costis solitis vix distinctis, tibiis anticis obtuse tridentatis. Long. ·32.

Texas; Mr. Ulke. The claws are cleft as usual. This species must be placed next to *D. sordida,* though differing greatly in the form of the thorax.

DASYDERA Lec.

284. D. rathvoni. Nigra, pilis longis erectis vestita, thorace dense punctato, longe fulvo-piloso, elytris dense punctatis, breviter nigro-pubescentibus, apice attenuatis divergentibus, guttis parvis flavo-pubescentibus serie quadruplici positis, antennarum clava obscure testacea. Long. ·40—·60.

Sacramento Valley, California; Mr. S. S. Rathvon. The elytra are only two-thirds the length of the abdomen, gradually but considerably attenuated towards the extremity. The antennal club in the male is twice as long as in the female, though smaller than in *D. ursina.* The lateral tooth of the anterior tibiæ is strongly marked, while in *D. ursina* it is indistinct.

LACHNOSTERNA Hope.

285. L. maculicollis. Dilute fusco-ferruginea nitida, elongata, thorace parce punctato, apice marginato, flavo, macula maxima antica nigro, capite confertim punctato, nigro, clypeo parabolico, fortiter marginato. Long. ·48—·55.

Two males, Cape San Lucas; Mr. John Xántus. Resembles in appearance some species of Cyclocephala.

Body long ovate, pale brown, fringed at the sides with hair. Head rather longer than wide, coarsely and densely punctured, black, clypeus rounded, strongly margined; antennæ pale, 9-jointed, joints 3—5 closely united, club longer than the stem. Labrum very broadly and slightly concave. Thorax one-half wider than long, considerably narrowed in front, strongly rounded on the sides, with a distinct marginal line in front; surface sparsely punctured, yellow, with a very large transverse black spot, extending from the apex nearly to the base, where it is pointed. Elytra strongly punctured, fringed at the sides with hairs. Beneath sparsely clothed with long hairs, tibiæ and tarsi darker, spurs of hind tibiæ both movable, obtuse, claws armed with a small tooth near the base.

A species remarkable not only for the color of the thorax, but by its anterior margin being thickened, and separated by a transverse impressed line; in Listrochelus the same marginal line is seen, but to a much less extent.

286. L. nitidula. Elongato-ovata, testacea nitida, capite fusco, fortiter haud dense punctato, clypeo rotundato, marginato, apice obsolete sinuato, thorace flavicante, apice marginato, parce punctato lateribus valde rotundatis, parce fimbriatis, elytris punctatis, margine parce fimbriatis. Long. ·45.

Cape San Lucas; Mr. John Xántus. Also resembles a small Cyclocephala. Smaller than the preceding, with the thorax more narrowed in front, and more rounded on the sides, and the clypeus broader and slightly sinuate in front. In the female the tooth of the tarsal claws is more prominent and near the middle of the claw. The antennæ of the male are as in the preceding.

LISTROCHELUS Blanch.

287. L. densicollis. Elongatus cylindricus, piceo-rufus, capite thoraceque obscurioribus nitidis, illo fortiter punctato, angustius marginato, antice late subtruncato, fronte sutura bene impressa, thorace confertim fortiter punctato, lateribus obtuse angulatis, angulis posticis haud rotundatis; elytris vage punctatis, glauco-pruinosis, tibiis posticis calcaribus subæqualibus, tarsis tibiis paulo longioribus. Long. ·62.

Cape San Lucas; John Xántus. Resembles in form *L. mucoreus*, but differs considerably by the characters above noted. The sexual characters are as in that species.

288. L. puberulus. Elongato-ovalis, ferrugineus, flavo-pubescens, versus latera longe pilosus, capite anguste marginato, lateribus obliquis antice late subtruncato, fortiter punctato, fronte sutura bene impressa, thorace dense fortiter punctato, lateribus obtuse rotundatis, elytris profunde æqualiter punctatis. Long. ·50.

Cape San Lucas; John Xántus. One male; the tarsal claws are strongly pectinate. Quite distinct from any other species known to me by the more strongly punctured elytra, and uniform pubescence.

ANOMALA Kœppe.

289. A. centralis. Longiuscula subovata, testacea, capite confertim subtiliter punctato, rufo, thorace parce punctulato macula triangulari ab apice fere ad basin extendente, elytris seriatim punctatis sutura limboque externo nigris, tarsis fuscis. Long. ·35.

Cape San Lucas; Mr. John Xántus. Of the same shape as *A. varians*, but very distinct from all the species known to me by the triangular spot of the thorax; this spot in front is nearly as wide as the head, and gradually narrows behind, terminating behind the middle. The elytra are marked with regular rows of punctures, the only confused ones being near the suture. The club of the antennæ in all the specimens before me is equal in length to the stem.

PELIDNOTA McLeay.

290. P. lucæ. Obscure viridi-ænea, capite thoraceque nitidis sat subtiliter punctatis, elytris alutaceis, castaneis viridi-micantibus, subtiliter seriatim punctatis, pedibus nigro-cyaneis, viridi tinctis; antennis castaneis. Long. ·70—·77.

Cape San Lucas; John Xántus. The elytra are very dark brownish testaceous, but so tinged with metallic green that the ground color is not obvious. The head and thorax are dark bronzed green; the clypeus is flat, parabolic, and finely margined.

COTALPA Burm.

291. C. puncticollis. Viridi-ænea, longe pilosa, elytris fusco-testaceis vage haud profunde punctatis, fere glabris, capite confertissime punctato, clypeo parabolico, thorace rude sat dense punctato, pedibus chalybeis. Long. ·85.

New Mexico; Mr. Ulke. The punctures of the thorax are large but not so dense as to be conspicuously confluent. The form of the body is just as in *P. lanigera*, and the elytra are punctured in the same light manner. The clypeus is longer and less obtuse.

CYCLOCEPHALA LATR.

Our species, which are all of a testaceous color, and differ chiefly by the form of the head, may be conveniently tabulated as follows :—

§ *Body glabrous above.*

Clypeus parabolic, narrowly margined, head black, front reddish testaceous. 1. IMMACULATA.

Clypeus parabolic, subtruncate, more strongly margined in front, head black, front testaceous, body elongate. 2. LONGULA.

Clypeus subparabolic, truncate, strongly margined in front, head entirely black, body elongate. 3. SEDITIOSA.

Clypeus nearly semicircular, strongly margined, head blackish, margined with reddish testaceous, body robust. 4. ROBUSTA.

§§ *Body pubescent above.*

Clypeus parabolic, narrowly margined, head blackish, front testaceous. 5. VILLOSA.

Clypeus parabolic, strongly margined in front. 6. HIRTA.

Clypeus broadly parabolic, strongly margined. 7. PUBERULA.

292. C. longula. Elongata, testacea nitida, capite parce punctato, nigricante, fronte testacea, clypeo parabolico subtruncato, margine apicali altius reflexo, thorace parce punctato, antice parum angustato, elytris haud profunde rugose punctatis. Long. ·38.

Cape San Lucas; Mr. John Xántus. Only males obtained.

293. C. seditiosa. Elongata, testacea nitida, capite parce subtilius punctato, nigro, clypeo parabolico truncato, margine apicali altius reflexo, thorace parce punctato, margine apicali nigricante, antice parum angustato, elytris haud profunde punctatis. Long. ·40.

Ship Island, Mississippi. Collected by Dr. T. H. Bache, Surg. of Vols., and kindly presented to me by Dr. S. Lewis.

294. C. robusta. Ovalis robusta, rufo-testacea nitida, capite sat dense, antice confertim punctato, nigricante, clypeo fere semicirculari, margine reflexo rufescente, thorace latitudine duplo breviore, lateribus valde rotundatis, fortius punctato, linea dorsali lævi, elytris fortius punctatis infuscatis, pygidio infuscato. Long. ·50.

Texas; Mr. Ulke. Very distinct by the form of the clypeus, and the more robust shape.

295. C. puberula. Elongata testacea, pilis erectis villosa, capite parce subtilius punctato, clypeo brevi late parabolico, margine altius reflexo, thorace parce punctato, antice parum angustato, elytris seriatim punctatis punctisque parvis interjectis. Long. ·35—·40.

Georgia. Narrower than *C. villosa* and much smaller.

PHILEURUS LATR.

296. P. vitulus. Niger nitidus, capite cornubus duobus cylindricis armato, clypeo ad apicem acuto et alte reflexo, thorace punctis variolosis antice et in medio densioribus, postice sublævi, medio late canaliculato, pone apicem obsolete bituberculato, elytris striatim punctatis, tibiis anticis tridentatis. Long. ·85—·90.

Cape San Lucas; Mr. John Xántus. The thoracic tubercles are very faint, close to the apex, and separated by the tip of the median furrow. The transverse ridges of the hinder tibiæ are prolonged above into spines. The species belongs to Burmeister's division (A—b).

In the female the horns of the head become merely tubercles, and the subapical tubercles of the thorax are wanting.

GYMNETIS McLEAY.

297. G. cretacea. Atra nitida, thorace parce subtiliter punctato, lateribus pube cretacea marginatis, elytris vage haud dense punctatis, apice breviter acute prolongatis, maculis utrinque duabus cretaceis paulo pone medium transversim positis, metasterni lateribus episternisque pube cretacea indutis, epimeris mesosterni macula cretacea, pygidio rugose punctato, nigro-pubescente maculis duabus magnis cretaceis. Long. ·90.

Arizona; Mr. Ulke. A very distinct species from all known to me by description. The epistoma is strongly margined, truncate in front, parallel on the sides; the head is sparsely but coarsely punctured, and the sides are elevated; between the eyes a medial elevation extends forward opposite the insertion of the antennæ. The middle lobe of the thorax is rounded, and the scutellum is slightly exposed, though very narrow. Besides the white spots mentioned in the diagnosis, the ventral abdominal segments are ornamented with a white spot each side, near the margin of the elytra. The anterior tibiæ are armed with a feeble tooth, one-third from the apical angle.

EURYOMIA BURM. (emend LAC.)

298. E. californica. Læte prasina opaca, capite parce punctato, clypeo elongato planiusculo subtilius rugoso apice emarginato, thorace lateribus rotundatis margine cretaceis, parce punctato, punctis duobus cretaceis ornato, elytris guttis parvis cretaceis, utrinque 4 vel 5 ornatis, sutura postice elevata apice prominula; metasterno antice producto; subtus lateribus punctatis, pedibusque fulvo-villosis. Long. ·65.

California, precise locality unknown; given me by Baron R. Osten Sacken. The elytra are marked with rows of punctures, and exhibit the usual feeble elevations coalescing into a posterior prominence; the sides are transversely wrinkled, and the tip sparsely punctured; the suture is elevated behind and projects at tip, forming a short spine. The pygidium is rugose and clothed with fulvous hair.

This species resembles at first sight *E. pubera*, but the color is brighter green, and the clypeus is entirely different in form.

CREMASTOCHILUS Knoch.

299. C. planatus. Elongatus, ater, fere opacus, capite punctato, thorace plano varioloso, latitudine paulo breviore lateribus valde rotundatis, angulis anticis auriculatis, posticis productis nitidis sulco definitis, elytris thorace sesqui latioribus confertim punctatis, dorso planis lateribus et apice subito valde declivibus, tarsis elongatis, anticis difformibus. Long. ·72.

Arizona; Dr. Irwin, U. S. A. This wonderful species has the mentum very concave, punctured and acutely prominent behind; it belongs to the division Psilocnemis. but differs by the more graceful form, and by the tarsi being rather longer than the tibiæ. The anterior tarsi of the two specimens before me (both males) are singularly formed. the fourth and fifth joints are enlarged, and much compressed, but the claws are scarcely larger than on the other feet. The pygidium is very coarsely punctured, and obtusely carinate.

PTOSIMA Sol.

300. P. walshii. Elongata postice angustata, obscure ænea nitida, parce cinereo-pubescens, capite thoraceque fortiter haud dense punctatis, hoc dorso ante medium foveis duabus profundis impresso, elytris punctatis, postice et introrsum obsolete vix striatis, guttis utrinque 4 flavis serie digestis ornatis. Long. ·25.

One specimen, Rock Island, Illinois; collected by Mr. Benj. D. Walsh, to whom I feel great pleasure in dedicating this very interesting addition to our fauna. The first elytral spot is very small, about one-fifth from the base; the 2d is elongate, commencing before the middle and ending about the middle; the 3d is about one-fifth from the tip, and the 4th very near the tip.

ACMAEODERA Esch.

301. A. subbalteata. Subcuneiformis, nigro-æenea fere opaca breviter pubescens, thorace convexo brevi, lateribus rotundatis, antrorsum valde angustato, ante basin paulo latiore, dense punctato, foveis tribus parvis basalibus notato; elytris atris, fasciis duabus ad suturam interruptis, maculis duabus posticis flavis, striis cribratis, interstitiis angustis uniseriatim punctatis. Long. ·25.

One specimen, Cape San Lucas; Mr. Xántus. A very pretty and distinct species, proportioned nearly like *A. pulchella*, but belonging to a different group. The elytra are black, not shining, with the following markings bright yellow: an angulated transverse band extending from the margin to the 2d stria, about one-fifth from the base; an oblique band commencing on the margin a little behind the middle, and ceasing at the 3d stria; a large spot about one-fourth from the tip, and a small spot very near the tip.

The last ventral segment has the usual marginal groove and small transverse subapical crest.

RHAEBOSCELIS Chevr.

302. R. tenuis. Valde elongata, nigro-æenea, griseo-tincta, capite convexo, haud dense punctato, profunde canaliculato, thorace latitudine paulo breviore, antice sublatiore et lateribus ibi rotundatis, haud dense rugose punctato, versus latera oblique excavato, angulis posticis rectis planis, elytris rugose punctatis, apice singulatim rotundatis haud serrulatis: unguiculis appendiculatis. Long. ·20.

Maryland, Mr. Ulke; Illinois, Mr. Benj. D. Walsh. Resembles closely in appearance *Agrilus egenus*, or any other of our smaller species, but is known at once by the antennæ being scarcely longer than the head, and received in well defined but short grooves excavated in the inflexed portions of the prothorax, just beneath the lateral margin.

DRAPETES Redt.

303. D. rubricollis. Oblongus nitidus, vix parce pubescens, niger, capite punctato, prothorace toto rufo, supra parce fortiter punctato, margine laterali simplici, prosterno bisulcato, et utrinque subtiliter bicarinato, elytris nigro-cyaneis haud dense, antice subseriatim punctatis. Long. ·12.

Georgia; rare. More convex than *D. geminatus.* This species approaches the Mexican *D. nigriceps* Bonv., but does not agree with the description sufficiently to permit me to consider it the same.

ALAUS Esch.

304. A. melanops. Niger fere opacus, punctis albo-pilosis conspersus, thorace latitudine longiore, canaliculato, lateribus rotundatis, postice paulo angulato, confertim punctato, maculis duabus solitis nigro-velutinis fere rotundatis, elytris confertim punctatis subtiliter striatis. Long. 1·12.

California and Oregon; Mr. Ulke. The thoracic spots are shaped as in *A. gorgops,* from which as from all our other species it differs by the less shining surface, and coarser pubescence; the latter is distributed in very minute scattered dots.

HORISTONOTUS Cand.

305. H. simplex. Niger nitidus, pube helva subtili vestitus, pilis longioribus intermixtis, thorace latitudine haud breviore ante medium angustato, et lateribus rotundato, subtilissime punctulato, et remote subtiliter punctato, elytris striis fortiter punctatis, interstitiis planis subtilissime punctulatis et uniseriatim punctulatis, antennis pedibusque rufis. Long. ·30—·35.

Cape San Lucas; Mr. Xántus. The head and anterior angles of the thorax are sometimes reddish. The claws, as in our other species, are strongly dilated at base into a tooth.

306. H. densus. Niger subopacus, cinereo-pubescens, thorace latitudine vix longiore antrorsum vix angustiore, lateribus rotundatis, convexo dense subtiliter punctato, elytris striis profunde punctatis interstitiis rugosis et punctulatis, antennis pedibusque rufo-testaceis. Long. ·25.

One specimen, Cape San Lucas; Mr. Xántus.

CRYPTOHYPNUS Esch.

307. C. grandicollis. Elongatus, supra nigro-piceus nitidus, æneotinctus, subtilissime pubescens, capite fortiter punctato, antice rufescente, thorace latitudine longiore convexo, lateribus fere parallelis antice rotundatis, disco postice canaliculato, parce lateribus et antice fortiter postice subtiliter punctato, angulis posticis divaricatis fortiter carinatis rufescentibus, elytris striis profundis leviter punctatis, interstitiis parce punctulatis, margine basali rufescente; subtus piceo-rufus, antennis pedibusque pallidioribus. Long. ·36.

Canada; rare. A very fine and distinct species.

308. C. planatus. Elongatus depressus, nigro-æneus opacus, subtiliter pubescens, capite rude punctato, frontis margine medio vix elevato, thorace latitudine longiore lateribus late rotundatis, angulis posticis acutis divaricatis carinatis, stria utrinque basali notato, confertissime aciculato, elytris striis impunctatis, interstitiis haud dense punctatis et asperatis; subtus niger, cinereo-pubescens, antennarum articulo 3io 4to æquali. Long. ·40.

New York; Mr. Kestlin. I am doubtful whether to refer this species to Cryptohypnus or Corymbites. The prosternum is not much wider than in certain species of the former genus, and the lateral sutures are but slightly curved; the frontal margin is almost obsolete at the middle. The plates of the middle coxæ are, however, rather suddenly dilated inwards.

MONOCREPIDIUS Esch.

309. M. athoides. Valde elongatus, nigro-fuscus, fusco-pubescens, capite thoraceque confertim punctatis, hoc latitudine fere sesqui longiore antrorsum paulo angustato, lateribus fere rectis, angulis posticis elongatis divaricatis, elytris striis punctatis, interstitiis dense rugose punctulatis, antennis pedibusque testaceo-fuscis, illis articulo 3io 2ndo paulo longiore, sed 4to breviore. Long. ·40.

Texas. The lobe of the 4th tarsal joint is narrow. This insect is remarkable for its strong resemblance in appearance to Athous.

LIMONIUS Esch.

310. L. ornatipennis. Niger subnitidus, confertim fere æqualiter punctatus, subtiliter pubescens, thorace latitudine paulo longiore convexo, lateribus fere parallelis vix late rotundatis, angulis anticis rufis prominulis, posticis haud carinatis rufo-testaceis, elytris striis punctatis, sutura pone medium, limbo externo vittaque ab humero usque ad dodrantem extensa et ibi dilatata obscure rufo-testaceis, pedibus rufo-testaceis; antennarum articulis 2 et 3 æqualibus 4to conjunctis longioribus. Long. ·26.

York, Pennsylvania; rare; Revd. D. Ziegler. The prosternal sutures are not excavated. In one specimen the elytra vitta is interrupted anterior to the dilated part, which extends to the margin.

ATHOUS Esch.

311. A. maculicollis. Valde elongatus, fuscus nitidus, cinereo-pubescens, capite punctato, fronte concava, margine reflexo rufo, thorace latitudine sesqui longiore, antrorsum paulo angustato, lateribus haud rotundatis late undulatis, angulis posticis haud carinatis apice rotundatis, haud dense punctato, læte rufo macula nigra rhomboidea elongata a basi ad apicem extensa; elytris æneo-tinctis, striis punctatis, interstitiis subtiliter punctatis, antennarum articulo 1mo epipleuris abdominis margine pedibusque flavo-testaceis, antennis articulo 3io 2ndo longiore at 4to breviore. Long. ·32.

Canada; rare. Belongs to the division having the 2d and 3d tarsal joints distinctly lobed beneath. Color excepted, this species resembles closely *A. acanthus*.

EANUS Lec.

312. E. maculipennis. Nigro-æneus nitidus, pallide pubescens, capite thoraceque fortiter haud dense punctatis, hoc convexo subcampanulato, latitudine breviore, angulis posticis acutis divaricatis carinatis, versus latera pone medium vage impresso, elytris obsolete striatis, haud dense subtilius punctatis, limbo externo macula basali, altera obliqua suturam haud attingente, tertiaque majore ad dodrantem læte flavis, antennis piceis, basi, epipleuris pedibusque testaceis. Long. ·22.

Labrador; Prof. Chadbourne. The oblique narrow spot and the posterior one both attain the lateral margin. The thorax is more narrowed in front and more rounded on the sides than in either of the other species.

CORYMBITES Latr.

313. C. ochreipennis. Elongatus, æneo-niger, subtus cinereo, supra fulvo pubescens, thorace subtiliter punctato convexo, latitudine fere longiore lateribus rotundatis, angulis posticis divaricatis haud carinatis, fissuris basalibus brevissimis, elytris rufo-testaceis sutura infuscata, subtiliter striatis interstitiis punctulatis. Long. ·20—·25.

Great Slave Lake; Robert Kennicott. The third joint of the antennæ is not wider, and but little longer than the second. This species is to be placed next to *C. nubilus* Lec. from California and Oregon.

314. C. morulus. Niger nitidus, capite confertim fortiter punctato, fronte late concava, thorace lateribus dense medio modice punctato, latitudine paulo longiore, antrorsum modice sensim angustato, angulis posticis carinatis paulo divergentibus, pone medium haud profunde canaliculato, elytris striis punctatis, interstitiis convexis haud dense subtiliter punctatis. Long. ·50.

One specimen, North Red River; Robert Kennicott. Resembles closely the Californian *C. obscurus* Lec., but the elytra are less densely punctulate, and the thorax is a little more convex.

315. C. vulneratus. Nigro-fuscus subænescens, subtiliter fusco-pubescens, capite fortiter punctato, fronte concava, thorace latitudine paulo longiore convexo, subtilius lateribus densius punctato, lateribus rotundatis, late propleurisque rufo-sanguineis, angulis posticis divaricatis carinatis, elytris subtiliter striatis, interstitiis punctatis, pedibus rufis, antennarum articulo 3io sequente paulo longiore. Long. ·70.

New York and Canada; Mr. Kestlin. The thorax is a little widened from the base to beyond the middle in the female, the only sex known to me.

EUTHYSANIUS Lec.

316. Eu. pretiosus. Castaneus nitidus tenuiter helvo-pubescens, capite fortiter, thorace modice medio parcis punctato, hoc latitudine haud breviore antrorsum angustato, angulis posticis elongatis valde divergentibus, elytris thorace paulo latioribus striis fortiter punctatis vage impressis, interstitiis parce punctatis. Long. ·85.

One male, Sacramento Valley, California; Mr. Rathvon. Smaller than *Eu. lautus*, more shining, and much less punctured.

ANACHILUS Lec.

317. A. mandibularis. Elongatus, fusco-testaceus pubescens, capite nigricante fortiter punctato, thorace latitudine breviore convexo confertim punctato, vage biimpresso, lateribus rotundatis, angulis anticis subrectis, posticis parvis acutis valde divergentibus, elytris thorace latioribus subsulcatis, sulcis postice rude punctatis, interstitiis modice punctatis; antennis articulo 3io sequente duplo breviore, ore rufo-testaceo, mandibulis elongatis. Long. ·50—·55.

Florida; Dr. J. B. Bean. Only males obtained. The antennæ are strongly serrate, the third joint is as wide but scarcely half as long as the fourth; the last joint of the maxillary palpi is slightly triangular, and as long as the preceding. The front part of the thorax is sometimes fuscous.

Anachilus differs from *Cebrio* by the entire absence of any suture between the labrum and front; the anterior margin of the head is quite rectilinear. The feet are as in our North American species of Cebrio.

PRIONOCYPHON Redt.

318. P. limbatus. Late ovatus, rufo-testaceus, flavo-pubescens, thorace punctulato, elytris fortius minus dense punctatis, piceis limbo omni rufo-testaceo; antennis subserratis fuscis, articulo 1mo flavo, apice haud producto. Long. ·15—·21.

Middle States. Agrees in coloration with *P. discoideus*, but the dark spot of the elytra in the male is so large that only a narrow basal sutural lateral and apical margin remains yellow: in the female the spot is not well defined in front. The punctures of the elytra are larger and less dense; but the best distinguishing character is in the form of the first joint of the antennæ, which in *P. discoideus* is prolonged and nearly acute at the tip, but broadly rounded in the present species.

The male (as in the European species) is only distinguished from the female by the antennæ being longer and stouter: no vestige of the double series of slender appendages observed in the male of *P. discoideus* is seen.

HELODES Latr.

319. H. apicalis. Elongata, subtus nigro-picea, supra lutea, pubescens, capite, macula thoracis apicali, elytrisque apice nigris, fronte et ore luteis; thorace semicirculari subtiliter punctato, lateribus reflexis margine tenui diaphano, elytris sat dense punctatis; coxis et femoribus flavis, his supra fuscis; antennarum articulis 3 primis subtus flavis. Long. ·16.

One specimen; San Francisco, California. Of the same form as the European *H. pallida.* The 3d joint of the antennæ is scarcely half as large as the 2d.

320. H. explanata. Longiuscula, oblongo-ovalis, fusco-testacea, pube brevi sericans, thorace brevi, dense punctulato, fusco, lateribus valde rotundatis late explanatis et reflexis, elytris confertim subtilius punctatis, sutura infuscata, stria suturali obsoleta antice abbreviata; antennis articulis 2 et 3 æqualibus, 4to conjunctis paulo breviore. Long. ·20.

One specimen, Ottawa, Canada; Mr. B. Billings. A species belonging to *Microcara* Thomson, which is received as a genus by Kiensenwetter, but only as a division of *Helodes* by Duval. The opinion of the latter seems to me more natural.

It is related to the European *H. livida*, but differs by the larger size of the 2d joint of the antennæ.

321. H? brevicollis. Elongata, testacea pubescens, thorace latitudine triplo breviore, apice late emarginato, basi bisinuato, angulis anticis rotundatis, posticis acutis, minus dense medio obsoletius punctato, elytris punctatis, punctis transversim confluentibus; antennarum articulis 2ndo 3ioque parvis, 4to conjunctis paulo longiore. Long. ·20.

One specimen, from Oregon, in Mr. Ulke's collection. The head is finely punctured; the antennæ are fuscous, except the first three joints, which are testaceous; the thorax is much rounded on the sides, and is narrower than the elytra. The specimen is mutilated, but I believe it to belong to this genus.

EUCINETUS Germ.

322. Eu. oviformis. Ovatus convexus, niger, pubescens, elytris confertim punctatis, obsolete striatis, pone medium sensim angustatis, capite rufescente, antennarum articulis 3 primis ultimoque rufis; parapleuris parce subtilius punctatis; pedibus piceo-ferrugineis. Long. ·18.

Illinois. As large as *Eu. infumatus* Lec., but much stouter and more convex. The side pieces of the prothorax, as in that species, are nearly smooth, those of the trunk are finely, not densely punctured. The obsolete striæ of the elytra are quite obvious in certain lights; the body is gradually narrowed behind, as in *Eu. morio,* which is a much smaller and narrower species.

323. Eu. testaceus. Ovatus convexus, testaceus, pubescens, elytris confertim punctatis, stria suturali postice impressa, pone medium rotundatim angustatis; parapleuris parce fortius punctatis. Long. ·13.

Pennsylvania; Mr. Ulke. Found also by me at Lake Superior. Larger and broader than *Eu. morio,* and less attenuated behind. The side pieces adjacent to the middle legs afford excellent characters for distinguishing the species; in *Eu. testaceus* they are tolerably strongly, but not densely punctured; in *Eu. morio* they are very finely and densely aciculate; as finely but less densely aciculate in *Eu. terminalis.*

PLEOTOMUS Lec.

324. P. pallens. Elongato-ellipticus, fusco-pallidus, opacus, subtiliter pubescens, thorace semielliptico, latitudine paulo longiore, lateribus late depressis, apice anguste reflexo-marginato, basi late emarginato, subtiliter carinato, confertim punctato, plaga magna basali punctulata; elytris confertim punctatis, lineis tribus elevatis sat distinctis (apice divaricatis?). Long. ·48; lat. ·18.

One male from Texas, in Mr. Ulke's collection. The sculpture of the thorax is peculiar; it is distinctly and tolerably densely punctured at the sides and before the middle, with a very finely punctulate broad transverse space extending from the middle to the base, and from the dorsal carina to the depressed sides.

The genus *Pleotomus* was established by me upon this insect, (Class. Col. N. America, 184,) without giving a specific description. It is easily distinguished from other genera of *Lampyrini* by the antennæ being 14-jointed, about two-thirds the length of the thorax, with the 1st joint short, obconical; the 2d scarcely visible; the 3d to the 13th prolonged externally and internally, so that the antennæ become bipectinate; the 14th longer than the processes of the preceding joint. The maxillary palpi are dilated, with the last joint securiform; the labial with the last joint elongated, oval, somewhat pointed. The eyes are very large, and very nearly approximated on the under surface of the head, behind the mouth. The 7th ventral segment is broadly truncate, or subemarginate, permitting the small conical 8th joint to become visible. The luminous segments (if any) are not distinguishable, owing perhaps to the general pale color of the insect. The pygidium is semicircular. The last joint of the tarsi is longer than the preceding.

This genus seems allied to *Lamprocera* Lap., but differs by the greater number of the joints of the antennæ, and the greater length of the last joint of the tarsi.

MICROPHOTUS Lec.

Antennæ short and stout, scarcely longer than the head, 2d joint nearly equal to the 1st, about as long as wide; 3d joint very little longer, narrower at the base; 4th–9th gradually diminishing in length; 10th oval, not longer than the preceding; 11th very small, cylindrical, truncate and subulate, as in *Phausis.* Eyes immensely large, almost contiguous; maxillary palpi with the joints broader than long, last one triangular, nearly acute. Prothorax semicircular, convex at the middle, widely flattened and impressed each side; finely scabrous, without hyaline spots. Elytra suddenly widened behind the base, rounded at the sides and concave beneath the humeral elevation, gradually narrowed from the middle, tips rounded and slightly dehiscent. Abdomen with the last ventral segment prolonged at the middle and rounded at the tip in all the specimens I have seen; last dorsal segment subtruncate. Wings perfect. Feet feeble, compressed; first and second joints of tarsi somewhat longer; 4th joint short, scarcely lobed; 5th joint slender, as long as the two preceding united.

A very distinct genus, not only by the form of the antennæ but by the 4th tarsal joint being not lobed. It agrees with *Phausis* in the latter character, as well as in the last joint of the antennæ being small and acicular; but differs by the antennæ having one joint less, and by the thorax being destitute of hyaline spots.

The under surface of the body is testaceous, so that I cannot ascertain the number of luminous ventral segments, but believe them to be two, as in *Phausis*.

325. M. dilatatus. Elongato-ovalis, thorace pallido medio fusco, confertim scabro-punctato, medio vage canaliculato, et obsolete carinato, elytris fuscis, vage rugose punctatis, pone basin dilatatis, costa humerali acuta postice sensim obliterata; subtus testaceus, oculis maximis nigris, antennis fuscis. Long. ·25—·30.

Cape San Lucas, Lower California; collected by Mr. Xántus.

CHAULIOGNATHUS Hentz.

326. C. opacus. Capite thoraceque nigris opacis, hoc latitudine haud breviore, limbo omni luteo, lateribus reflexis, basi bisinuatim marginato, elytris thorace latioribus, opacis punctatis, luteis dimidio postico nigro, limbo angusto testaceo; scutello nigro; subtus testaceus, pedibus nigris, femoribus basi coxisque luteis; antennis nigris, (maris) valde elongatis tenuibus, articulo 3io sequente duplo breviore. Long. ·42.

Arizona; Dr. B. J. D. Irwin, U. S. A. Allied to the Texan *C. limbicollis* Lec., but the markings are quite different, and the thorax is more quadrate. The large black spot of the elytra extends from the middle nearly to the tip, leaving a narrow sutural apical and lateral margin yellow: the anterior outline of the spot is oblique backwards from the suture to the side.

OMETHES Lec.

327. O. marginatus. Elongatus niger, pube erecta pallida vestitus, capite punctato, fronte et ore testaceis, thorace testaceo nitido, parce fortiter punctato, latitudine plus duplo breviore, lateribus valde rotundatis, margine omni reflexo; elytris punctatis, substriatis, sutura margineque externo testaceis, scutello testaceo; pectore pedibusque testaceis, antennis piceis, articulis 3 primis testaceis, 3io secundo sesqui longiore. Long. ·20.

Middle and Southern States; rare. The generic characters are sufficiently detailed in my Classification of Coleoptera of North America, p. 187.

PODABRUS Westwood.

328. P. fayi. Flavus nitidus, subtiliter cinereo-pubescens, capite postice fortiter punctato, thorace latitudine haud breviore, vix obsolete punctato, lateribus reflexis, antice transversim impresso, medio late excavato, elytris nigris fortius granulatis, abdomine medio fuscescente; antennis fuscis, articulo 1mo flavo, 3io præcedente sesqui longiore. Long. ·50.

Ohio, collected by Mr. Fay; two specimens kindly given me by Dr. S. Lewis and Mr. Ulke. This species is allied to *P. tomentosus*, but differs by the thorax being narrower, less punctured, more deeply excavated at the middle, without a distinct dorsal impressed line; by the elytra being more strongly granulated, and by the postpectus being yellow. The ungues are acutely toothed, or rather cleft, as in that species.

329. P. protensus. Rufo-testaceus, capite subtiliter punctato, ore fusco, collo elongato, thorace latitudine haud breviore, apice et basi late emarginato, antrorsum paulo angustato, lateribus rotundatis late marginatis, disco parce punctulato canaliculato, et ad basin medio profunde excavato, pone apicem transversim impresso; elytris thorace latioribus dense rugose punctatis, cinereo-pubescentibus nigro-fuscis, ad basin late, ad latera usque ad medium anguste, licet indeterminate rufo-testaceis; scutello, pectore, pedibusque rufo-testaceis, abdomine infuscato; antennis testaceis, articulis 2ndo et 3io subæqualibus, saepe extrorsum infuscatis, 4to longiore. Long. ·56.

Pennsylvania; Prof. Haldeman: Connecticut; Mr. Norton. A very distinct species, with the portion of the head behind the eyes as long as the front portion. The elytra are about twice as wide as the thorax, and of a blackish color, with the basal fifth, and the outer margin as far as the middle reddish-yellow; the two colors shade imperceptibly together. The antennæ in one specimen are nearly uniform testaceous, in another they are somewhat fuscous externally; the joints are slender, the 2d and 3d nearly equal, and together longer than the 4th, which is equal to the following. The tarsi are slightly fuscous, and the ungues are cleft.

330. P. cinctipennis. Nigro-piceus, cinereo-pubescens, capite fortiter punctato, ante oculos rufo-testaceo, thorace rufo-testaceo, quadrato latitudine haud breviore, lateribus fere parallelis reflexis, angulis anticis rotundatis, posticis subrectis, fortiter punctato, antice transversim impresso, ad basin transversim excavato; elytris scabris, sutura limboque laterali pallidis, scutello nigro; propectore, coxis anticis, femoribus basi, antennarumque articulo 1mo testaceis, his articulo 3io præcedente duplo longiore. Long. ·46.

One specimen given me by Dr. Melsheimer, as collected in Pennsylvania, and by him referred to *Tel. westwoodi* Kirby. The ungues are dilated into a large rectangular tooth at base, or in other words they are appendiculate.

This species is related to *P. punctatus* Lec., but is much larger, and the hind angles of the thorax are not rectangular and prominent.

TELEPHORUS SCHÄFFER.

331. T. scopus. Nigro-piceus, cinereo-pubescens, capite subtiliter punctato, fronte flavo-testaceo, thorace flavo-testaceo, latitudine paulo breviore, margine laterali et basali reflexo, angulis posticis subrectis, disco lævi nitido, macula nigra notato, medio breviter canaliculato; elytris subtiliter dense granulatis, abdomine fusco, apice et lateribus testaceo; antennis basi testaceis, articulo 3io sequente vix breviore. Long. ·30.

Oregon; one specimen in Mr. Ulke's collection. The 1st, 2d, and under surface of the 3d joint of the antennæ are pale; the remaining joints are dark piceous. The inner claw of the anterior tarsi, and the outer one of the middle and hind pairs are broadly toothed at the base; the other claws are simple.

332. T. oregonus. Niger, subtiliter cinereo-pubescens, thorace latitudine breviore, lateribus et angulis anticis rotundatis, posticis obtusis, basi marginato, margine extimo nigro, lateribus late marginatis, disco canaliculato, vitta lata nigra ornato ad basin paulo abbreviata; elytris dense granulatis, abdomine segmentis duobus ultimis testaceis; mandibulis pallidis apice nigris; antennarum articulo 3io præcedente duplo longiore, sequenti æquali. Long. ·40.

Oregon; George Gibbs, Esq. A distinct species, related to *T. fidelis* Lec., but differing by the black thoracic vitta, and by the color of the abdomen: the outer claw of the middle and hind feet, and the inner claw of the front feet are appendiculate, or dilated into a broad rounded tooth at base, while in *T. fidelis* the tooth is more prominent. The general appearance resembles *T. carolinus*, but this species is smaller and belongs to a different section of the genus.

MALTHODES Kiesenwetter.

333. M. fuliginosus. Elongatus, fuscus, tenuiter cinereo-pubescens, thorace latitudine breviore, antrorsum paulo latiore, marginato, angulis anticis rotundatis, apice utrinque oblique truncato, basi recto; elytris rugosis, longiusculis; pedibus pallidioribus, antennis basi testaceis, articulis 2 et 3 æqualibus. Long. ·17.

Mas, segmento dorsali penultimo postice utrinque sinuato, angulis posticis prominulis; ultimo prolongato, angusto apice acute emarginato, supra longitudinaliter concavo; penultimo ventrali late profunde emarginato; ultimo pallidiore elongato, vage canaliculato, postice in cornua duo cylindrica ascendentia, et divergentia producto.

Femina, segmento ventrali 6to fisso, lobis rotundatis.

Lake Superior; three specimens. A rather large species, easily known by the sexual characters: the last dorsal segment of the male is much prolonged, narrow, and concave above, emarginate at tip, with the lobes rounded; the penultimate ventral segment is very deeply and broadly emarginate; the last ventral prolonged, broadly canaliculate, produced behind into two cylindrical horns, ascending so as to pass each side of the prolonged last dorsal segment.

The females of different species of this genus resemble each other in such manner that, as already observed by Kiesenwetter, it is very difficult to distinguish them: the sexual characters of the male are very extraordinary, and very easily recognized in each species.

334. M. spado. Nigro-fuscus, tenuiter cinereo-pubescens, capite thorace latiore, ore rufo, thorace latitudine duplo breviore, undique tenuiter marginato, lateribus rectis angulis omnibus rotundatis, elytris rugosis, ad medium abdominis abbreviatis. Long. ·09—·13.

Mas, segmento dorsali ultimo apice rotundato; ventrali penultimo late profunde emarginato, ultimo conico, haud producto, apice parum emarginato; antennis corpore brevioribus.

Femina, segmento ventrali penultimo late emarginato.

Variat capite obscure rufo, fascia pone oculos nigricante.

Pennsylvania; five specimens. The elytra are somewhat shorter than in the other species, being only one-half the length of the abdomen; the 2d joint of the antennæ is about equal to the 3d in the female, and a little shorter in the male.

The penultimate ventral segment is feebly emarginate in the female, but deeply semicircularly emarginate in the male; the last segment is not prolonged, but is gradually narrowed behind, and slightly emarginate.

COLLOPS Er.

335. C. limbatus. Brevissime cinereo-pubescens, et nigro-pilosus, capite punctulato, viridi, ante oculos flavo, thorace lævi ad latera parce punctulato, rufo; elytris punctatis, sutura limboque laterali et apicali rufo-flavis; subtus niger, pedibus anticis et mediis rufo variegatis, antennis fuscis basi rufo-testaceis. Long. ·17.

One female, from Nebraska, given me by Mr. Ulke. A very distinct species, having the elytra deeply but not coarsely punctured, very much as in *C. tricolor.*

336. C. insulatus. Niger, capite punctulato, clypeo pallido, thorace parce subtiliter punctulato, rufo, vitta dorsali lata nigra; elytris parce subtilius punctatis, rufis, singulo macula basali postice rotundata, basin totam occupante, alteraque pone medium nec suturam nec marginem attingente nigris, tibiis tarsisque rufis; antennis articulo 1–3 testaceis nigro-maculatis. Long. ·17.

One female, from California, in bad state of preservation: the pubescence has been in great part removed, but enough remains to show that it was of the usual kind, short ashy prostrate hairs, with longer erect black ones intermixed: the basal spot extends about one-sixth the length of the elytra, and occupies the whole base from the outer margin to and including the scutellum, and is rounded behind on each elytron; the posterior spot is elliptical, and extends from the middle to about one-eighth from the tip, reaching neither the suture nor the side; the punctures are fine and distant, as in *C. punctulatus* Lec.

ATTALUS Er.

337. A. humeralis. Flavo-rufus, nitidus, minus dense pubescens, capite thoraceque lævibus, hoc latitudine sesqui breviore, convexo, tenuiter marginato, apice subtruncato, basi cum angulis posticis rotundatis; elytris parce punctulatis postice paulò dilatatis, macula humerali nigra ornatis; postpectore nigro, pedibus posticis nigricantibus basi rufis; antennis nigris basi rufis. Long. ·13.

One specimen, collected at Peoria, Illinois, kindly given me by Dr. Emil Brendel. A beautiful and distinct species.

CYMATODERA Gray.

338. C. fascifera. Picea, pallide pilosa, capite dense, thorace rugose punctato, latitudine duplo longiore, postice angustiore, lateribus bisinuato, dorso vix impresso, ad basin medio foveato; elytris parce punctulatis seriebus punctorum postice obliteratis, fascia lata pallida ad medium ornatis, ante fasciam testaceo-tinctis, macula humerali, nebulaque pone basin signatis, apice sensim rufescentibus; subtus piceo-testacea, pedibus pallidioribus, antennis testaceis, articulo 3io præcedenti sesqui longiore. Long. ·33.

One specimen, collected at Cape San Lucas, Lower California, by Mr. Xántus. Body above piceous, clothed with rather long, not dense pubescence; head densely punctured, a little wider than the thorax; palpi and antennæ testaceous, the latter as long as the head and thorax, with the 2d joint two-thirds as long as the 3d, which is about equal to the 4th; 11th joint about one-third longer than the 10th.

Thorax about twice as long as its greatest breadth, broadly bisinuate at the sides, middle prominence as wide as the apex; base slightly narrower; surface shining, finely and rugosely punctured, lateral constrictions not obvious on the disc; a small impression at the middle near the base. Elytra wider than the thorax, slightly dilated behind, humeri prominent, rounded; finely, not densely punctured, and with rows of quadrate punctures becoming obsolete about one-fourth from the tip: color from the base to the middle pale piceous, with a dark humeral spot and a large posterior cloud; then a wide pale yellow band, concave anteriorly, occupying about one-fifth of the surface; then piceous, becoming reddish towards the tip.

Beneath piceo-testaceous; legs paler, with the knees and tarsi slightly fuscous; head and thorax colored beneath as above.

339. C. pilosella. Picea, longe pallide pilosa, capite confertim, thorace rugose punctato, hoc latitudine duplo breviore, postice magis angustato, lateribus ante medium leviter postice fortiter sinuatis, dorso antice angulatim vage impresso, ante basin foveato; elytris a basi sensim dilatatis, humeris obsoletis, punctis magnis seriatis impressis, fere ad apicem extensis, interstitiis uniseriatim punctulatis, fascia media obsoleta, apiceque indeterminate testaceis; antennis palpis pedibusque testaceis. Long. ·25—·28.

Two specimens, found by me at San Diego, California. There are three species known to me in which the elytra are gradually dilated from the base, and the humeral angles are obsolete :—

1. *C. angustata,* in which the sides of the thorax are very feebly bisinuate, and the elytra are irregularly varied with testaceous and fuscous, the surface of the thorax is tolerably densely and not rugosely punctured, and the elytra finely punctulate, with the rows of punctures obliterated at one-fourth from the tip.

2. *C. ovipennis,* with the sides of the thorax strongly bisinuate, the surface less densely and somewhat rugosely punctured; the elytra with a medial band and tip paler, the surface sparsely punctulate, and the rows of punctures obliterated near the tip.

3. *C. pilosella,* agreeing with the last, except that it is of smaller size, with the anterior sinuosity of the thorax rather less marked, and the surface more punctured and rugose: the rows of punctures of the elytra, though less deep, are not obliterated behind.

CLERUS Geoffroy (emend. Kiesenw.).

340. C. tantillus. Elongatus, cylindricus, castaneo-rufus nitidus, parce pilosus, capite thoraceque fortiter sat dense punctatis, hoc latitudine longiore lateribus subrectis obsolete serratis, ad basin subito oblique angustato, angulis posticis minutis obtusis; elytris pone basin vage impressis, punctis ante medium majoribus, pedibus testaceis. Long. ·08.

One specimen, collected at Washington, D. C., and given me by Baron R. Osten Sacken. This is the smallest species of the family *Cleridæ* known to me. It is quite different from *C. sanguineus* Say, by the coarser punctures of the head and thorax, as well as by the narrower form, which is similar to *Priocera,* or *Tarsostenus.* The anterior tarsi are somewhat dilated, while the posterior ones are narrow, without distinct membranous lobes; I therefore consider it as belonging to the division *Thaneroclerus* Spin., although it differs from that as from all other species of *Clerus* by the hind angles of the thorax being distinct, though obtuse. The ungues are quite simple.

The lateral serration of the thorax is produced by the punctures upon a very obsolete margin; the sides of the prothorax beneath are coarsely punctured, with a smooth shining space near the coxæ: I do not observe more than four joints in the hind tarsi, neither a short basal one, nor a small fourth joint being visible. More favorable examination of other specimens may indicate the propriety of placing it as a new genus, near *Tarsostenus;* the antennæ have the last three joints slightly enlarged and more approximate than in *Clerus sanguineus.* The last joint of the labial palpi is very large and dilated; the maxillary palpi cannot be seen.

HYDNOCERA Newman.

341. H. subfasciata. Nigro-ænea, pube longa argentea vestita, et parce nigro-pilosa, capite confertim subtilius punctato, thorace latitudine breviore, lateribus subito fortiter dilatatis, medio parce, lateribus subtiliter densius punctato, vitta angusta dorsali lævi; elytris parallelis, apice serrulatis singulatim rotundatis, confertim punctatis, fascia mox pone medium pilis transversim positis; antennis palpis tibiis tarsisque testaceis; femoribus posticis elytris haud longioribus. Long. ·21.

Two specimens, from Nebraska, given me by Mr. Ulke. Larger than the largest specimens of *H. humeralis*, and readily distinguished by the less coarse punctures of the elytra, and by the extremely coarse silvery pubescence, which, on the elytra, is directed both longitudinally and transversely; just behind the middle there is a transverse band in which all the hairs are directed outwards: a similar space, though less obvious, is seen at the base, extending one-third the length along the suture.

342. H. pedalis. Elongata, nigra, supra cyanescens, pilis longis albidis vestita, capite subtiliter punctulato, cum oculis thorace paulo latiore, hoc latitudine sublongiore, lateribus late modice dilatatis, ruguloso et parce punctato; elytris abdomine paulo brevioribus parallelis, humeris prominulis, apice dehiscentibus, singulatim rotundatis, serratis, fortiter punctatis; antennis palpisque testaceis, pedibus anticis testaceis, mediis fuscis testaceo-variegatis, posticis nigris, femoribus posticis abdomine haud longioribus. Long. ·18.

One pair, Rock Island, Illinois; Mr. B. D. Walsh. The lateral dilatation of the thorax is a little less prominent than in *H. pallipennis*, but more distinct than in *H. verticalis.* The hind thighs of the male extend to the tip of the abdomen, but in the female only to the tip of the elytra.

343. H. schusteri. Valde elongata nigra, parce albo-pilosa, capite cum oculis thorace sesqui latiore, nitido fere lævi, thorace fere lævi, latitudine longiore, lateribus late paulo dilatatis; elytris grosse punctatis, abdomine paulo brevioribus, parallelis, humeris late rotundatis, apice paulo dehiscentibus, singulatim rotundatis serratis, læte flavo-rufis, macula suturali lata a medio ad apicem extensa ornatis, abdomine lateribus antice rufis; antennis palpisque pallidis, pedibus flavo-rufis, femoribus posticis elytris vix longioribus. Long. ·22.

One specimen, from middle Illinois, kindly given me by Mr. Maurice Schuster, of St. Louis, to whom I dedicate with pleasure this beautiful species. The lateral dilatation of the thorax is about as prominent as in *H. pedalis*, but in consequence of the greater length, disappears more gradually behind.

CREGYA Lec

344. C. mixta. Elongata, picea, pallide pilosa, capite grosse punctato, thorace latitudine longiore, postice modice constricto, punctis grossis umbilicatis sat densis, testaceo-variegato; elytris pallidis macula elongata humerali trienteque postico nigro-piceis, apice testaceis, punctis grossis seriatim positis, versus apicem obliteratis, interstitiis fere uniseriatim punctulatis; antennis pedibusque testaceis, illis clava fusca. Long. ·13—·17.

Maryland and Kentucky; two specimens given me by Mr. J. Ph. Wild. A beautiful little species, somewhat resembling in appearance *C. vetusta*, but much smaller, and with the punctures of the thorax very large, umbilicated, and not very closely placed.

The genus *Cregya* contains species placed with *Pelonium* by Spinola, but differing by the thorax being constricted behind, so as to render the sides sinuate, and by the anterior tibiæ not being serrate externally. The antennæ are 11-jointed, the first joint of the tarsi is not shorter than the second; the ungues are slightly dilated at the base in *C. vetusta* and *fasciata*, but very broadly appendiculate in *C. oculata* and *mixta.*

ENOPLIUM Latr.

345. E. scabripenne. Nigrum pube erecta grisea vestitum, capite thoraceque punctatis, hoc latitudine haud longiore, lateribus rotundatis, tenuiter marginatis, utrinque longitudinaliter impresso, angulis anticis testaceis; elytris thorace latioribus, opacis confertissime granulatis, humeris apiceque læte rufis: prosterni margine antico, capitis vitta lata gulari rufis; antennis 10-articulatis, articulo 1mo subtus rufo. Long. ·32.

One specimen, collected at Cape San Lucas, Lower California, by Mr. Xántus. As I have observed on a previous occasion, the species of *Enoplium* found in North America differ from those of the other continent, by having but ten joints in the antennæ. In other respects our species agree with the generic characters of *Enoplium* as given by Duval and Kiesenwetter. Duval has observed* that the ungues of *E. 4-punctatum* are acutely toothed at the base, while those of the European species are simple. I find that they are broadly and slightly dilated at the base in the former, but can hardly be called toothed: in *E. scabripennis* they are very feebly dilated, while in the Texan *E. 4-notatum* the dilatation is scarcely perceptible.

LEBASIELLA Spin.

346. L. janthina. Elongata læte violacea nitida, nigro-pilosa, capite thoraceque haud dense sat fortiter punctatis, hoc convexo latitudine breviore, lateribus rotundatis tenuiter marginatis, elytris fere cribratim punctatis; subtus cyanea, antennis nigris basi testaceis. Long. ·20.

One specimen, collected at Cape San Lucas, Lower California, by Mr. Xántus. This species has very much the appearance of a *Corynetes*, and is of about the same size and shape as *C. violaceus.*

347. L. nigripennis. Nigra nitida, pube flava erecta vestita, capite thorace antennis pedibusque læte rufo-testaceis, capite parce punctulato, thorace latitudine breviore convexo, parce punctato, lateribus rotundatis, tenuiter marginatis, elytris convexis, thorace latioribus, profunde punctatis, punctis postice subtilioribus. Long. ·12.

One specimen, collected in York County, Pennsylvania, given me by Dr. Melsheimer.

LARICOBIUS Rosenhauer.

348. L. rubidus. Nigro-piceus, nitidus, pilis erectis vestitus, capite punctato, biimpresso, thorace latitudine breviore, lateribus marginatis, medio angulatis, disco rude punctato, interstitiis punctulatis; elytris piceo-rufis, sutura nigricante, pone basin impressis, punctis quadratis seriebus 9 digestis, serieque brevi juxta scutellum, interstitiis parce punctulatis; antennis ferrugineis, capite thoraceque brevioribus. Long. ·10.

Found in the Smithsonian grounds, Washington, D. C., by Mr. Ulke, under the bark of a coniferous tree. The antennæ extend as far as the lateral angle of the prothorax. This insect resembles in form and general appearance *Derodontus maculatus* so much that it might without examination be readily taken for a dark colored variety of that species.

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* Genera des Coléoptères d'Europe, III, 200, (note).

TRIGONOGENIUS Solier.

349. T. farctus. Obesus, convexus, niger, pube sordida depressa sericea undique dense vestitus, setisque elongatis nigris pilosellus, thorace latitudine vix breviore, lateribus medio dilatatis, postice sinuatis, basi late rotundata, convexo, inæquali, profunde late canaliculato; elytris dorso antice parum convexis, ventricosis, thorace plus duplo latioribus; antennis pedibusque obscure ferrugineis. Long. ·12.

Three specimens, from San Francisco, California, given me by Mr. Ulke. The thorax is convex, dilated on the sides, somewhat coarctate behind, with a very deep dorsal furrow, and faint impressions each side of it; the elytra are scarcely longer than their width, convex and much deflexed behind, but not very convex in front.

SINOXYLON Duftsch.

350. S. quadrispinosum. Cylindricum nigrum, capite punctato, postice rugoso, thorace latitudine paulo breviore, lateribus fere parallelis antice paulo rotundatis, apice medio recte truncato, postice fere lævi piceo-rufo, antice exasperato nigro; elytris subseriatim punctatis, antice piceo-rufis, postice nigro-piceis, fortius punctatis, flavo-pubescentibus, dein declivibus, fere lævibus et spinis obtusis conicis duabus utrinque armatis; antennis pedibusque flavis. Long. ·15.

Two specimens, collected at Cape San Lucas, Lower California, by Mr. Xántus. Much smaller than the Texan *S. sericans*, and with the tubercles of the posterior declivity much more prominent; the punctuation of the elytra is also entirely different, the thorax is nearly smooth behind, and the anterior asperities are fewer and more prominent. The front is not concave.

S. asperum Lec. and *S. 6-tuberculatum* Lec. were also found by Mr. Xántus in Lower California.

BOSTRICHUS Geoffr. (emend. Guérin).

351. B. armiger. Elongatus cylindricus, niger opacus, pilis sordidis irregulariter vestitus, thorace latitudine breviore fortiter granulato, postice subtiliter canaliculato, antice bicornuto et serrato, lateribus rotundatis postice subsinuatis, angulis posticis rectis; elytris rude fere confuse punctatis et granulatis, apice convexis. Long. ·30—·40.

Mas, elytris spina parva subsuturali armatis.

Femina, elytris apice singulatim rotundatis.

Middle and Southern States. Differs from what I regard as *B. serricollis*, by the elytra not having two elevated costæ,

although the more conspicuous of the spots formed by the mud-colored hairs are arranged in series corresponding with the costæ of that species.

352. B. truncaticollis. Elongatus cylindricus, niger opacus, pilis sordidis irregulariter maculatus, thorace latitudine paulo longiore, fortiter granulato, postice subtiliter canaliculato, antice late emarginato, angulis anticis acutis, lateribus sinuatis, antice acute pluridentatis, angulis posticis rectis; elytris rude subseriatim punctatis, apice convexis. Long. ·30—·40.

Mas, elytris ad apicem spina subsuturali acuta armatis, angulo suturali acuto.

Femina, elytris ad apicem singulatim subangulatis.

One specimen, from Alabama, given me by Prof. S. S. Haldeman, and another from Kentucky, by Mr. J. Ph. Wild. Very distinct from the preceding by the anterior part of the thorax not being produced into acute horns, but being only prominent laterally; the anterior outline is broadly emarginate, and the sides near the apex are armed as in the preceding with a few acute teeth.

AMPHICERUS Lec.

353. A. fortis. Elongatus cylindricus, piceo-niger, thorace latitudine breviore, rude granulato, antice bicornuto, et lateribus dentato, lateribus dein parallelis, angulis posticis rectis apice rotundatis; elytris nitidis fortiter subseriatim punctatis, postice haud callosis. Long. ·46—·66.

Two specimens, collected at Cape San Lucas, Lower California, by Mr. Xántus. Differs from *A. punctipennis* by the hind angles of the thorax being prominent, the sides more parallel and scarcely rounded, with the hinder portion of the disc granulated, and not aciculate in a reticulated manner, as in that species; and finally by the posterior declivity of the elytra having no callosities.

DINODERUS Stephens.

354. D. porcatus. Elongatus cylindricus, niger opacus, setis fulvis erectis vestitus, thorace latitudine haud breviore, antice angustato, lateribus cum apice rotundatis, fortiter inæqualiter dentatis, rude asperato, angulis posticis rectis; elytris granulis subacutis asperatis substriatis, apice æqualiter convexis. Long. ·12—·22.

A common species, throughout the Atlantic States, and easily distinguished by the dull color, and strongly serrate thorax.

In *D. substriatus* of Europe, which occurs also in Canada and

Russian America, the sides of the thorax are also very strongly and unequally toothed, but the elytra are not opaque, and the granules are not so dense nor so acute, being less distinct than the corresponding punctures.

355. D. cribratus. Elongatus cylindricus niger, dorso glaber, ad marginem parce pilosus, thorace latitudine haud breviore, lateribus cum apice rotundatis, subserratis, angulis posticis rotundatis, disco convexo confertim granulato, granulis versus apicem acutis reclinatis; elytris nitidis, fortiter haud seriatim punctatis, postice æqualiter convexis. Long. ·14—·19.

Middle States; not rare. Quite distinct by the feebly serrate thorax, and the shining coarsely punctured elytra.

356. D. densus. Elongatus, cylindricus, niger subopacus, setis fulvis erectis vestitus, thorace latitudine haud breviore, lateribus antice cum apice rotundatis et fortiter dentatis, postice subparallelis subserratis, angulis posticis rotundatis, disco convexo dense granulato, granulis anticis acutis; elytris confertim fortiter punctatis, subgranulatis, postice æqualiter convexis. Long. ·12.

Two specimens; New York. Differs from *D. substriatus* by the thorax being more densely granulate and by the elytra not being substriate, and from *D. porcatus* by the elytra not being so rough, and from both by the sides of the thorax from the middle being only feebly serrate.

POLYCAON Lap.

357. P. pubescens. Elongatus, nigro-piceus, pube laxa helva vestitus pilis longioribus intermixtis, capite thoraceque confertim granulatis, hoc ovato latitudine vix longiore, postice angustato, apice obsolete, basi sat distincte transversim impresso, elytris sat dense punctatis. Long. ·40.

Cape San Lucas, Lower California; Mr. Xántus. The punctures of the elytra are not coarse, nor very closely placed, but simply moderate in both respects: the front is uniformly convex, and not impressed.

358. P. punctatus. Elongatus, nigro-piceus nitidus, pube brevi laxa vestitus pilis longioribus intermixtis, capite granulato, thorace ovato latitudine vix longiore, postice angustato, subcanaliculato vix transversim impresso, disco punctato, versus latera subgranulato, elytris sat dense punctatis. Long. ·48.

One specimen, from Lower California, in the collection of Mr. Ulke. The punctures of the elytra are very much as in the preceding species, but the pubescence is short, and the sculpture of the thorax is very different.

359. P. confertus. Elongatus, piceus fere opacus, pubis pallidis alterisque obscuris longioribus intermixtis vestitus, capite thoraceque dense granulatis, hoc latitudine paulo longiore, postice subangustato, antice transversim impresso, dein canaliculato, elytris confertim fortiter punctatis. Long. ·42.

One specimen, from California, in the collection of Mr. Ulke. Very different from all the other species known to me by the strongly and densely punctured elytra.

LYCTUS FABR.

360. L. opaculus. Nigro-piceus, aureo-pubescens, capite thoraceque opacis, confertim punctulatis, hoc latitudine longiore, lateribus parallelis haud serratis, angulis anticis rotundatis, posticis rectis, disco subtilius canaliculato; elytris subopacis, fortius seriatim punctatis, coxis anticis approximatis. Long. ·15.

One specimen; Pennsylvania. Quite distinct by the characters above given. The punctures of the elytra are large, and form regular rows for two-thirds the width.

361. L. cavicollis. Nigro-piceus, aureo-pubescens, capite antice impresso, thoraceque opacis, confertim punctulatis, hoc latitudine paulo longiore, lateribus parallelis serrulatis, angulis anticis rotundatis, posticis rectis, disco longitudinaliter excavato; elytris confertim seriatim punctatis et pilosis; coxis anticis approximatis. Long. ·16.

One specimen; San Diego, California. The punctures of the elytra are moderately fine, and arranged in double rows—there being a row of hairs between each double row of punctures. In this, as in the preceding species, the anterior coxæ are distinctly separated, while in *L. striatus* Mels. they are almost contiguous.

362. L. planicollis. Nigro-piceus, pubescens, capite punctato antice impresso, thorace quadrato postice parum angustato, angulis anticis rotundatis, posticis rectis, lateribus subtiliter serratis, disco confertim minus subtiliter punctato, longitudinaliter impresso, elytris subseriatim punctulatis, et pilosis; coxis anticis minus approximatis. Long. ·14—·25.

LEC. Proc. Acad. Nat. Sc. Phila. 1858, 74.

California, Illinois, and Texas. Differs from the other species in my collection by the punctures of the thorax being very distinct, not confluent, and not fine. The abdomen is rufo-piceous. The sides of the thorax are more finely serrate than in *L. striatus.* The front coxæ are more widely separated than in the two preceding species.

TROGOXYLON Lec.

363. T. punctatum. Cylindricum convexum, nigro-piceum, opacum, setis erectis brevissimis fulvis vestitum, capite fortiter punctato antice impresso, thorace latitudine fere breviore, postice subangustato, lateribus fere rectis, angulis anticis et posticis haud rotundatis, disco confertim punctato subcanaliculato; elytris fortiter dense punctatis, lineis utrinque tribus elevatis vix conspicuis; subtus nitidum, prosterno parce punctato, coxis anticis modice distantibus pedibus obscure ferrugineis. Long. ·14.

One specimen, collected at Cape San Lucas, Lower California, by Mr. John Xántus. Very different from *X. parallelipipedum* by the convex and strongly punctured upper surface. The genus *Trogoxylon* differs from *Lyctus* by the front tibiæ being truncate at tip, the anterior angles of the thorax not rounded, and the elytra irregularly punctate, without rows of hairs. In *Lyctus* the external apical angle of the front tibiæ is produced, the anterior angles of the thorax are rounded, and the elytra are more or less punctured in rows, with well defined lines of hairs.

SPHINDUS Chevr.

364. S. americanus. Oblongus convexus, nigro-piceus, fusco-pubescens, thorace transverso, lateribus valde rotundatis crenulatis, disco punctato; elytris punctulatis, striis punctatis, haud impressis postice obliteratis, humeris rufo piceis; antennis pedibusque testaceis. Long. ·08—·10.

Atlantic States, not rare, in woody fungi. I have had no opportunity to compare with the European *S. dubius;* but, judging by the figures and descriptions at my disposal, it differs from that species by the fainter rows of punctures on the elytra. The elytra are sometimes of a uniform brown color.

TRIPHALUS Lec.

365. T. perforatus. Piceus subopacus, capite dense fortiter punctato, fronte parum convexa, thorace capite vix latiore, quadrato, antrorsum subangustato, lateribus omnino rectis, angulis omnibus minime rotundatis, confertim grosse punctato; elytris elongato-ovalibus, basi paulo emarginatis et thorace coaptatis, utrinque foveis rotundatis seriebus 9 digestis, interstitiis parce punctulatis, epipleuris lævibus; corpore subtus parce grosse punctato. Long. ·26—·33.

Cape San Lucas, Lower California; Mr. Xántus. This genus differs from *Triorophus* by the superciliary ridge being fine and single above the eyes, by the antennæ being shorter and less slender, by the last joint of the maxillary palpi being not longer than its width, by the eyes being larger and distinctly emarginate, by the thorax not being rounded, by the elytra being closely applied to the thorax, with the humeral angles distinct, and finally by the tarsi being pubescent beneath and setose. The large punctures of the elytra form eight discoidal and one marginal series, and there is a scutellar stria composed of three or four punctures. The epistoma is trilobed as strongly as in *Triorophus*, the middle lobe being angulated at tip as in that genus: the mentum is more flat than in *Triorophus*, being hexagonal, and transverse, with the lateral angles distinct, and the front margin feebly emarginate; but the difference in this respect is neither obvious nor important.

EURYMETOPON Esch.

366. Eu. punctulatum. Alatum, elongato-ovale, piceum fere opacum, confertim subtilius subscabro-punctatum, elytris striis punctatis haud impressis parum distinctis, tibiis anticis sensim dilatatis subserratis. Long. ·27.

Cape San Lucas, Lower California; Mr. Xántus. The body is elongate oval, moderately convex, and without lustre; the head and thorax are punctured, the punctures being slightly scabrous; the thorax is nearly twice as wide as its length, narrowed in front, strongly rounded on the sides, broadly emarginate in front, and slightly rounded at the base; the front angles are acute and the hind angles obtuse, but not rounded. Elytra scarcely wider than the thorax, with rows of punctures, forming striæ which are very indistinct and not at all impressed; punctures of the interstices nearly as large as those of the striæ, somewhat scabrous. Body beneath rufo-piceous; antennæ, legs, and epipleuræ nearly ferruginous; anterior tibiæ slightly and gradually dilated, scarcely serrate, external apical angle acute.

367. Eu. serratum. Alatum, elongato-ovale, pallide rufo-piceum nitidum, capite thoraceque subscabro-punctatis, hoc lateribus rotundatis serrulatis; elytris fere seriatim subscabro-punctatis, tibiis anticis modice dilatatis serratis, margine externo sinuato, angulo apicali producto acuto. Long. ·12.

One specimen, collected in Arizona, by Dr. B. J. D. Irwin, U. S. A. Body proportioned as in *Eu. convexicolle*, but smaller and very distinct by the characters given above. The mentum is very distinctly emarginate in front, the emargination being filled by the ligula, which becomes quite prominent. This species thus seems to indicate a different group in the genus. In every other respect it agrees with typical *Eurymetopon*, except that the epistoma is broadly truncate at the middle, and very slightly sinuate each side, instead of being slightly emarginate in front, and rounded each side.*

EMMENASTUS Motsch. (emend. Lec.†).

368. E. punctatus. Apterus, elongato-ovalis, piceus nitidus, capite dense, thorace fortius punctatis, hoc latitudine plus sesqui breviore, modice convexo, antrorsum angustato, lateribus modice rotundatis, basi late bisinuata, angulis posticis fere rectis; elytris striis indistinctis punctatis, postice parum impressis, interstitiis parce punctatis; ore, antennis, corporeque subtus piceo-ferrugineis. Long. ·30—·37.

Cape San Lucas, Lower California. Larger and broader than

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* Lacordaire, Gen. Col. V, 66, states that the head of *Eurymetopon* is not carinate above the eyes. There are no supraorbital ridges as in *Triorophus*, separated from the eye, but there is the small acute fold in front of the eye, which disappears at its upper margin; the same fold is observed in *Triphalus*, *Trimytis*, and *Emmenastus*, but is wanting in *Epitragus* and *Schœnicus*.

† I have applied this generic name to several species, which, while being closely related to *Eurymetopon*, differ in the characters pointed out by Lacordaire, Gen. V, 66; viz.: a shorter mesosternum, epistoma rounded in front, and especially the anterior tibiæ truncate at tip, not dilated, with the outer angle not prolonged. The mentum is somewhat emarginate in front, and the ligula rarely visible. Mannerheim, (Bull. Mosc. 1853, 112,) states that *E. rugosus* Motsch., the type of the genus, is only a specimen of *Blapstinus pulverulentus;* but whatever may be the label, this view is not consistent with the generic description of Motschulsky, upon which I have based the reference of the species above described. It seems to me proper, therefore, while rejecting *E. rugosus* Motsch. as a doubtful, or imperfectly described species, to retain the generic name for the species to which it will apply.

E. longulus, but sculptured nearly in the same manner. The punctures of the thorax are denser at the sides, which become rugose; the striæ of the elytra are composed of punctures but little larger than those of the interspaces: the striæ are very feebly impressed towards the tip, and not at all impressed in front.

369. E. pinguis. Apterus, ovalis convexus, piceus subnitidus, capite thoraceque confertim fortiter punctatis, hoc longitudine plus duplo latiore, antrorsum fortiter angustato, lateribus rotundatis, basi vix bisinuata, angulis anticis acutis, posticis obtusis subrotundatis; elytris confuse punctatis; corpore subtus, antennis pedibusque dilutioribus. Long. ·30.

Cape San Lucas, Lower California; Mr. J. Xántus. Much more robust than the other species, and resembling in form a small *Coniontis.* The punctures of the thorax do not become confluent at the sides, and the sides are considerably rounded; the greatest breadth is a little in front of the base, which is scarcely perceptibly bisinuate; the punctures of the elytra are confused, presenting no traces of striæ.

370. E. convexus. Apterus, elongato-ovalis convexus, niger subnitidus, capite thoraceque confertim punctatis, hoc versus latera rugoso, latitudine fere duplo breviore, antrorsum angustato, lateribus rotundatis, angulis anticis acutis, basi late rotundata, angulis posticis obtusis apice rotundatis; elytris parce punctatis, punctis hic inde subseriatis, antennis pedibusque rufo-piceis. Long. ·20—·26.

New Mexico and Nebraska. The thorax is tolerably densely punctured, the punctures becoming confluent at the sides. The elytra are almost equably punctured, though slight vestiges of series of punctures forming striæ may be traced. The posterior angles of the thorax are rounded at tip, and somewhat obtuse, though the base is but slightly narrower than the greatest breadth.

371. E. obtusus. Apterus, elongato-ovalis convexus, niger subopacus, capite thoraceque confertim subtilius punctatis, hoc latitudine fere duplo breviore, ante medium angustato, postice paulo angustato, lateribus magis rotundatis, angulis anticis acutis, ad basin vix rotundato, angulis posticis obtusis haud rotundatis; elytris striis punctatis haud impressis, interstitiis parce subtilius punctatis; pedibus obscure ferrugineis. Long. ·30.

Two specimens, found by me at Benicia, California. Sufficiently distinct by the characters given above. It is larger than *E. ater*, and readily known by the thorax being slightly narrowed from behind the middle to the base, with the hind angles obtuse but not rounded, and by the regular series of punctures on the elytra.

372. E. texanus. Alatus, elongato-ovalis, minus convexus, piceus subnitidus, capite thoraceque confertim fortiter punctatis, hoc latitudine fere duplo breviore, a basi antrorsum angustato, lateribus modice rotundatis, angulis anticis acutis, posticis rectis, basi bisinuata; elytris striis punctatis vix impressis, interstitiis parce subtilius punctatis; antennis palpis pedibusque obscure ferrugineis. Long. ·30.

Two specimens, from Texas. This species is quite different by the less convex body, and by the more distinct elytral striæ. The wings are well developed both in it and in *E. longulus*, and the metasternum is therefore longer than in the other species. Otherwise I detect no structural difference.

EPITRAGUS Latr.

373. E. acutus. Obscure æneus, subnitidus, tenuiter cinereo-pubescens, capite confertim punctato, thorace latitudine longiore, antrorsum angustato, angulis anticis prolongatis, acutissimis, parallelis; elytris punctulatis, vix obsolete striatis. Long. ·46—·50.

Texas, Kansas, and Mexico. This species is distinguished from the next by the proportions of the thorax. The thorax of the female is densely and finely punctured, the sides are very slightly rounded, and not thickened, and the anterior angles are prolonged and parallel.

In the male the thorax is less densely punctured, the sides are absolutely straight, the margin is thickened, the anterior angles prolonged and parallel, the disc flattened and excavated, with two elevations extending to the apex which is moderately emarginate between them: the middle of the excavation is feebly carinated.

374. E. arundinis. Obscure æneus, subnitidus, tenuiter cinereo-pubescens, capite confertim punctato, thorace latitudine haud longiore, antrorsum angustato, angulis anticis prolongatis, acutissimis; elytris punctulatis, obsolete striatis. Long. ·40.

Middle States; on salt marsh, and on coarse grass near the ocean. The thorax of the female is slightly rounded on the sides, less densely punctured than in the preceding species, not longer than its width, and feebly channelled in the middle.

In the male the thorax is sculptured as in the preceding, but the excavation is deeper and scarcely carinated; the elevations extending to the apex are stronger, and the apical emargination is deeper.

In *E. canaliculatus* the thorax is obviously wider than its length, and more strongly narrowed in front; the elytra are less shining, more densely punctulate and rugose, with the pubescence very short, coarser and more silvery, giving an almost leaden lustre.

375. E. plumbeus. Plumbeo-æneus, fere opacus, breviter cinereo-pubescens, capite confertim punctato, thorace latitudine fere sesqui breviore, antrorsum angustato, lateribus rotundatis, angulis anticis subacutis haud prolongatis, confertim subtiliter punctato; elytris confertim punctulatis et rugosis, vix obsolete striatis. Long. ·40.

One specimen; Kansas. Resembles a female of *E. canaliculatus*, but the thorax is more convex, and the anterior angles are not prolonged, and scarcely acute.

376. E. tomentosus. Ovalis convexus, utrinque attenuatus, obscure æneus, pube cinerea minus subtili irregulariter vestitus, capite thoraceque fortiter punctatis, hoc latitudine paulo breviore, ante medium angustato, lateribus rotundatis, angulis anticis acutis; elytris punctis striatim digestis, interstitiis parce punctatis. Long. ·40.

Georgia and Florida. Easily distinguished by the coarse cinereous pubescens being irregularly distributed so as to form rows of small spots on the elytra. The striæ are not impressed, but are composed of punctures, and are not very obvious, owing to the punctures of the interstitial spaces being nearly as large as those of the rows.

SCHOENICUS Lec.

Corpus alatum elongato-ovale, elytris convexis, thorace latioribus, antice subparallelis, postice oblique angustatis. Caput plicis ocularibus nullis; epistoma subtrilobatum, lobo medio lato obtuso, lateralibus parum prominulis, oblique rotundatis; labrum transversum haud emarginatum. Palpi maxillares articulo ultimo triangulari, margine apicali oblique rotundato; oculi rotundati, subtransversi, antice paulo emarginati. Antennæ capite thoraceque paulo longiores, tenues, articulis 7–10 sensim paulo latioribus, hoc latitudine haud longiore, triangulari, 11mo ovato paulo minore. Genæ productæ apice obtuse rotundatæ, haud acuminatæ; mentum planum transversum, antice late rotundatum, parce punctatum. Prosternum postice haud productum; mesosternum declive, haud concavum. Metasternum elongatum. Pedes tenues, tibiæ anticæ versus apicem paulo latiores, angulo externo apicali producto acuto. Tarsi subtus breviter pubescentes.

This genus is established upon *Epitragus puberulus* Dej. Cat., and differs from *Epitragus* by the prosternum not being produced behind and received by the mesosternum. The antennæ are more slender, and the genæ are also less prominent, being quite rounded at tip. The prothorax is but feebly emarginate in front, and the anterior angles are not at all prominent. It seems to be more nearly related to *Himatismus* than to the other described genera of this tribe.

377. S. puberulus. Rufo-piceus nitidus, breviter parce pubescens, capite thoraceque punctatis, hoc latitudine sesqui breviore, antrorsum angustato, lateribus rotundatis haud marginatis, apice fere truncato, basi bisinuata, angulis anticis rotundatis, posticis obtusis; elytris subtilius punctatis, obsolete striatis, thorace paulo latioribus et plus quadruplo longioribus. Long. ·34.

One specimen, collected in Georgia, by Mr. John Abbott. There is a slight metallic gloss visible upon the elytra, which may sometimes become more obvious.

PELECYPHORUS Solier.

378. P. connivens. Niger opacus, pube brevi sordida parce vestitus, capite thoraceque confertim fortiter punctatis, hoc latitudine longiore, antice posticeque æqualiter modice angustato, lateribus late rotundatis, postice subcrenatis, margine reflexo, angulis anticis productis acutis, posticis acutis divergentibus, basi bisinuata, disco late et profunde canaliculato; elytris ovatis, postice oblique attenuatis, thorace sesqui latioribus, subtilius punctatis margine laterali costaque dorsali acute elevatis ad humeros conniventibus. Long. ·40.

One specimen, from Lower California, in the collection of Mr. Ulke. Related to *P. bifurcus*, but much smaller, with the hind angles of the thorax more prominent, the dorsal channel deeper, and the elytral costa diverging from the margin at the humerus, instead of just in front of the middle.

The dorsal costa terminates near the suture, about one-third from the tip; the marginal costa extends to within one-sixth of the tip. The antennæ and legs are very long in the specimen, which is a male. As in *P. bifurcus*, the anterior tibiæ are truncate at tip, with the outer angle not prolonged.

EUSCHIDES Lec.

379. Eu. puncticollis. Nigra, capite antice fortiter, postice subtilius dense punctato, thorace fortiter dense punctato, convexo rotundato, latitudine sesqui breviore, apice late emarginato, lateribus anguste explanatis, angulis posticis nullis; elytris ovalibus, thorace latioribus, postice valde declivibus et oblique angustatis, valde convexis, subtilius dense punctatis, margine laterali tenui, ad dodrantem obsoleto; tibiis anticis angulo externo apicali producto, spiniformi. Long. ·78.

One specimen, from Oregon, given me by Mr. Ulke. Quite distinct from the other species by the strongly and densely punctured thorax. The apical angle of the front tibiæ is acute in all the species, but is more prolonged in this, and is spiniform and nearly as long as the first joint of the tarsi.

BRANCHUS Lec.

380. B. floridanus. Ovalis modice convexus, fusco-ater opacus, pube depressa brevissima sordida adspersus, capite thoraceque confertim punctatis, hoc latitudine plus duplo breviore, antrorsum fortiter angustato, apice emarginato, lateribus rotundatis, basi medio late rotundata, utrinque late emarginata, angulis posticis productis, apice rotundatis; elytris foveis vagis irregulariter impressis, subcostatis, scabro-punctatis; antennis capite sesqui longioribus, tibiis anticis angulo apicali externo paulo producto. Long. ·60; lat. ·32.

One specimen, from Florida. Resembles in appearance a large *Opatrum.* The punctures of the thorax are tolerably dense, but shallow, and in the middle of each is a very short scale-like yellow hair; the sculpture of the elytra consists of irregular shallow confluent foveæ, so placed as to produce faint intervening costæ; the surface is likewise punctured, each puncture being accompanied with a small granule, and a very short hair. The scutellum does not project between the elytra.

The characters of the genus are given at length in the Classification of Coleoptera, p. 222.*

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* Another species of *Branchus*, collected on the Island of New Providence, Bahamas, by Dr. H. C. Wood, may be thus distinguished:—

B. woodii, ovalis parum convexus, ater opacus, breviter sordide pubescens, capite fortiter punctato, fronte transversim late excavato, thorace latitudine vix duplo breviore confertim subtilius punctato, antrorsum angustato, apice emarginato, lateribus late rotundatis, basi medio late rotundata, utrinque emarginata, angulis posticis productis, apice rotun-

EUSATTUS Lec.

Our species of *Eusattus* may be thus arranged :—

A. Elytra limited on the side by a distinct margin ;	
Epipleuræ occupying the whole of the inflexed portion.	ROBUSTUS.
Epipleuræ narrow, suddenly dilated at the base.	RETICULATUS.
B. Elytra deflexed on the sides and not margined ;	
Epipleuræ narrow, suddenly dilated at the base.	LÆVIS.
Epipleuræ gradually dilated towards the base ;	
a. Body rounded oval ;	
Elytra obsoletely costate, with scattered granules.	DIFFICILIS.
Elytra obsoletely costate, with shallow foveæ.	CONVEXUS.
b. Body inflated, nearly globose ;	
Elytra not pubescent, squamosely granulated ;	
Epipleuræ distinctly defined, nearly smooth.	MURICATUS.
Epipleuræ less defined, densely punctulate.	DILATATUS.
Elytra sparsely punctured, granulated, and pubescent.	PUBERULUS.
c. Body elongate oval ;	
Subopaque, elytra sparsely granulated.	PRODUCTUS.
Shining, elytra sparsely granulated.	DUBIUS.

The Mexican *Eu. nitidipennis* belongs to group (a), and differs from the two species above mentioned by the elytra not being at all costate, with shallow scattered punctures.

In group (b) the anterior tibiæ are much more dilated and prolonged than in the other groups.

381. Eu. robustus. Rotundato-ovalis, convexus, niger subopacus, thorace subtiliter parce punctulato, margine crassiore ; elytris subtiliter inæqualiter granulatis, granulis versus apicem distinctioribus, epipleuris latis, margine laterali definitis. Long. ·70 ; lat. ·43.

Island of San Clemente, California ; Dr. J. G. Cooper. Nearly as broad as *Eu. reticulatus*, and like it having the elytra distinctly margined at the sides ; but, unlike the other species, the epipleuræ occupy the whole of the inflexed portion : the marginal line runs therefore to the extreme tip, instead of becoming obsolete near the tip, as in *Eu. reticulatus*, where the margin is distinct from the epipleural limit. The anterior tibiæ are considerably dilated and obliquely prolonged at tip. The sculpture of the elytra is

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datis ; elytris punctulatis, substriatis, versus marginem parce foveatis. Long. ·50 ; lat. ·27.

Differs from *B. floridanus* by less convex form, less rounded sides of thorax, and differently sculptured elytra.

peculiar; small scattered granules are visible, equally distributed; the rest of the surface is nearly smooth at the base, but gradually becomes granulated, until at the tip the granules are quite distinct, though the difference between them and the larger scattered granules is quite obvious. The body beneath is nearly smooth with a few long yellow hairs near the edge of the prothorax and on the epipleuræ; a few wrinkles are also seen near the anterior coxæ.

This species indicates a different section of the genus from any heretofore described.

The singular arrangement of the epipleural limits in the different sections of this genus seems to demonstrate the necessity of uniting the Praocini with the Coniontini. In this case the tribe Branchini should be suppressed, unless the short gular fissure is sufficient to separate it.

382. Eu. laevis. Ovalis convexus, niger subopacus, impunctatus, thorace angulis posticis retrorsum productis; elytris a basi ultra medium paulo ampliatis, et lateribus fere rectis. Long. ·56; lat. ·32.

Cape San Lucas, Lower California; Mr. Xántus. Less rounded in outline than *Eu. reticulatus*, with the sides of the elytra almost straight from the base to beyond the middle, and nearly parallel, though very slightly wider behind. The upper surface is dull and entirely without sculpture; the under surface is also dull, and marked with only a few wrinkles on the under part of the prothorax near the coxæ. The elytra are suddenly declivous at the sides, not margined as in *Eu. reticulatus*, but the epipleuræ, as in that species, are well defined, and suddenly dilated at the base. It therefore indicates a separate section of the genus intermediate between *Discodemus* and typical *Eusattus*. The anterior tibiæ are obliquely prolonged at the outer angle, which is rounded at the tip.

CONIONTIS Esch.

383. C. lata. Ovalis robusta convexa, piceo-nigra, subopaca, capite thorace elytrisque æqualiter punctulatis, thorace latitudine duplo breviore, a basi antrorsum fortiter angustato, lateribus rotundatis, angulis posticis magis productis; subtus nitida punctulata, prothorace versus coxas longitudinaliter rugoso, antennis pedibusque piceis. Long. ·46; lat. ·24—long. ·40; lat. ·20.

Island of San Clemente, California; Dr. J. G. Cooper. Of the same robust form as *C. ovata*, but distinguished by the elytra not being less finely punctured than the thorax, and by the latter being much more strongly narrowed in front, with the base more strongly sinuate, and the hind angles more prolonged.

ELEODES Esch.

384. E. lucae. Elongata, nigra subnitida, thorace quadrato latitudine haud breviore, apice profunde emarginato, angulis anticis porrectis acutis haud acuminatis, lateribus modice rotundatis tenuiter marginatis, basi late rotundata apice haud angustiore, angulis posticis obtusis, disco modice convexo, tenuiter marginato, parce punctulato; elytris thorace latioribus elongato-ovalibus convexis postice acute attenuatis, fortiter punctato-striatis, striis parum impressis, interstitiis punctulis paucis impressis, femoribus anticis sexus utriusque fortiter acute dentatis. Long. ·70—1·04.

Mas, elytris thorace sesqui latioribus apice prolongatis, nonnunquam caudatis.

Femina, elytris thorace duplo latioribus apice oblique attenuatis, subacutis haud prolongatis.

Cape San Lucas, Lower California; many specimens collected by Mr. Xántus. The prosternum is prolonged behind the coxæ into a conical process, the inferior margin of which is horizontal. This species is allied to *E. ventricosa*, but differs by the narrower form, by the anterior angles of the thorax being much more prominent and acute, and by the anterior femora of both sexes being armed with a very acute tooth, while in *E. ventricosa* the tooth is wanting in the female. The elytra of some male specimens, though narrower than the female, are scarcely prolonged at tip, while in others the prolongation forms a tail, fully one-fourth the length of the elytra. The striæ are strongly punctured, and quite distinctly impressed, the interstitial spaces feebly convex, with a few fine scattered punctures.

Two females differ from all the others in having the prosternum much less produced behind, and indeed very slightly prominent: I can perceive no other difference, and therefore regard it as an individual variation.

385. E. innocens. Elongata, nigra subnitida, thorace quadrato, latitudine sublongiore, apice emarginato, angulis anticis acutis haud acuminatis, lateribus late rotundatis tenuiter marginatis, basi late rotundata apice haud angustiore, angulis posticis obtusis; elytris elongato-ovalibus postice valde declivibus, apice oblique attenuatis, haud prolongatis, striis fortiter punctatis parum impressis, interstitiis punctulis paucis sparsis notatis; femoribus anticis muticis. Long. ·54.

Two specimens, from Cape San Lucas, Lower California, collected by Mr. Xántus. The thorax is formed as in the preceding, but is a little narrower and less rounded on the sides. The elytra are more suddenly declivous behind, less acute, and not prolonged at tip; the front thighs are very slightly sinuate beneath, but not armed with a tooth. The prosternum is armed with a small prominence behind the coxæ.

386. E. aspera. Nigra, capite thoraceque opacis, fortiter sat dense punctatis, hoc latitudine paulo breviore, obovato modice convexo, apice subemarginato, basi paulo sinuata apice haud angustiore, lateribus tenuiter marginatis rotundatis, postice subsinuatis, angulis posticis obtusis haud rotundatis; elytris ovalibus, thorace duplo latioribus basi emarginatis humeris subacutis, apice valde declivibus oblique attenuatis, dorso deplanatis, lateribus subito inflexis, undique granulis reclinatis nitidis breviter piliferis dense subseriatim positis, et parce transversim rugosis; antennis capite thoraceque vix brevioribus, extrorsum paulo incrassatis; femoribus anticis muticis. Long. ·60.

One specimen, from New Mexico, in the collection of Mr. Ulke. Allied to *E. granulata* and *humeralis*, but differs by the much stronger sculpture of the elytra. The outer spur of the front tibiæ of the male, as in those species is enlarged, as long as the first three joints of the tarsi, and obtuse at tip. The under surface is punctured, and the prosternum is not prolonged behind.

387. E. subaspera. Nigra subnitida, capite thoraceque confertim subtilius punctatis, hoc latitudine breviore, apice vix emarginato, angulis anticis acutis haud prominulis, lateribus tenuiter marginatis valde rotundatis postice haud sinuatis, basi fere truncata apice vix angustiore, angulis posticis obtusis; elytris ovalibus, thorace sesqui latioribus, dorso parum convexis, apice valde declivibus, lateribus subito inflexis, undique granulis parvis subseriatim positis, versus latera et apicem breviter piliferis; femoribus anticis muticis; antennis capite thoraceque haud brevioribus, extrorsum parum incrassatis. Long. ·60.

A unique specimen, from Colorado Territory, given me by Dr. S. Lewis. Differs from the preceding by the finer sculpture both of thorax and elytra, and by the humeri not being prominent. It seems to be more nearly related to *E. inculta*, but the thorax is more rounded on the sides, the antennæ are less elongated and less slender, and the granules of the elytra are arranged almost in regular rows. The under surface is punctured and rugose; the prosternum is not prominent behind.

388. E. granosa. Atra opaca, capite thoraceque confluenter fortiter punctatis, hoc subquadrato, latitudine haud breviore, lateribus rotundatis crenulatis, haud marginatis; elytris ovalibus convexis, postice valde declivibus et oblique angustatis, tuberculis parvis nitidis seriatim positis, interstitiis granulis parvis fere uniseriatim digestis; femoribus anticis muticis, antennis capite thoraceque brevioribus, extrorsum incrassatis. Long. ·65.

One specimen, from California, given me by Mr. Ulke; another remains in his collection. The peculiar sculpture renders a longer description unnecessary. The antennæ are shorter than the head and thorax, and the 9th and 10th joints are somewhat broader than their length; the 11th joint is conical, and a little broader than its length. The under surface is slightly shining, rather strongly but not densely granulated; the prosternum is very feebly prominent behind.

This species differs from all the others known to me by the thorax not being margined at the sides: the punctures extend upon the sides so as to render the outline crenulate.

389. E. planipennis. Nigra subnitida, capite thoraceque parcius subtiliter punctatis, hoc latitudine breviore, tenuiter marginato, subdepresso, apice late emarginato, basi truncata apice paulo angustiore, lateribus valde rotundatis, postice brevissime sinuatis, angulis posticis rectis parvis haud prominulis; elytris thorace plus sesqui latioribus, ovalibus, basi truncatis, apice oblique declivibus et sinuatim attenuatis, dorso planis, humeris obtusis distinctis, lateribus subito inflexis, versus medium subtilius punctatis, versus latera et apicem granulis parvis subelevatis minus dense positis; femoribus anticis inferne subsinuatis, antennis capite thoraceque haud brevioribus, extrorsum paulo incrassatis. Long. ·64.

New Mexico; collected by Mr. Fendler. Easily distinguished by the more depressed form; the sculpture of the elytra consists of fine punctures, not arranged in rows: they are not closely placed, and become, as usual, converted into granules at the tip and sides; they gradually disappear on the inflexed portion, which is more suddenly and more strongly inflexed than in the other species of the group.

The species of *Eleodes* of small size, with unarmed femora, and confused elytral sculpture, have the middle lobe of the mentum broader and the lateral lobes less distinct than in the other groups of species: the middle lobe is broadly rounded in front, and in the present species is slightly transverse, with the lateral lobes small, inflexed, and scarcely visible; thus approaching the new genus *Discogenia*, in which they disappear entirely.

E. clavicornis makes an exception to the other small species, which requires it to be separated as a distinct group: the middle lobe of the mentum is prominent, elevated, and triangular as in the larger species of the genus.

DISCOGENIA Lec.

Eleodes scabricula Lec., and *marginata* Esch., differ from the other species which have been referred to the genus, by the mentum being quite flat, not at all trilobed, but transverse, widened from the base to the middle, then rounded, both at the front and sides, the lateral angles being also rounded at tip; the surface is punctured, and is foveate each side near the lateral angle. The thorax is broader than long, much rounded and finely margined at the sides, with the hind angles not prominent; it is feebly emarginate in front, with the front angles nearly obtuse. The elytra are oval, not wider than the prothorax, pointed behind, considerably rounded on the sides, and without humeral angles, so that they are more distant from the prothorax than in any species of *Eleodes*. The front thighs are unarmed, in the female, slightly angulated beneath in the males; the tarsi are alike in both sexes.

But two species named above are known to me. I regard *E. fischeri* Mannh. as a large and well developed form of *E. marginata*.

BLAPSTINUS Waterhouse.

390. B. obliquus. Ovalis convexus, ater, pube fusca minus subtili vestitus, capite thoraceque punctatis, hoc latitudine duplo breviore, a basi antrorsum angustato, lateribus obliquis paulo rotundatis, basi late bisinuata, dense ciliata, angulis posticis obtusis; elytris striis profundis punctatis, interstitiis paulo convexis subtilius sat dense punctatis. Long. ·32.

One specimen, collected at Cape San Lucas, Lower California, by Mr. Xántus. Larger and more convex than *B. crassus* Lec., and easily distinguished by the sides of the thorax being much less rounded. The tarsi are not dilated in the specimen, which is a female.

NOTIBIUS Lec.

391. N. opacus. Longiusculus, ater opacus, capite antice rufescento, confertim punctato, postice rugoso, thorace latitudine paulo breviore, postice subangustato, lateribus rotundatis marginatis, disco parum convexo, confertissime aciculato-punctato; elytris ovalibus modice convexis, thorace latioribus, fortius marginatis, humeris haud rotundatis, striis punctatis, paulo impressis, interstitiis subconvexis punctulatis; antennis pedibusque piceo-ferrugineis, tibiis anticis vix dilatatis. Long. ·12.

Cape San Lucas, Lower California; collected by Mr. Xántus. Two specimens are before me; the anterior tibiæ are alike in both, and are straight and scarcely dilated; the other characters are those of the genus, and as the other species do not accord in the form of body, and front tibiæ among themselves, I regard the distinction as merely specific.

The last three joints of the antennæ in *Notibius* are somewhat suddenly wider than the preceding joints.

EULABIS Esch.

392. Eu. grossa. Subdepressa, atra opaca, capite thoraceque dense confluenter punctatis, hoc latitudine paulo breviore, lateribus fortiter rotundatis, basi apice paulo latiore, late rotundata, angulis posticis obtusis haud rotundatis; elytris ovalibus thorace latioribus, basi truncatis et marginatis, humeris acute prominulis, sutura costisque utrinque 8 subtilibus elevatis, interstitiis confertim subtiliter punctatis, et uniseriatim fortiter punctatis; subtus fortiter, pedibus subtiliter punctatis Long. ·47—·55.

Island of San Clemente, California; Dr. J. G. Cooper: specimens also given me by Mr. Ulke, without definite locality. Conspicuous by its large size.

POLYPLEURUS Sol.

393. P. nitidus. Elongatus, niger nitidus, capite elongato angusto, subtiliter punctulato, thorace latitudine haud breviore, ante medium angustato, subtiliter punctulato, lateribus rotundatis, basi marginata late bisinuata, angulis posticis rectis; elytris thorace haud latioribus,

subparallelis, humeris rotundatis prominulis, parce subtiliter punctulatis, foveis profundis in seriebus utrinque 8 marginalique digestis. Long. ·65.

Florida; a specimen collected by Dr. J. B. Bean. Very distinct from the others by the shining surface, and by the elytra not being dilated from the base to behind the middle. The anterior tibiæ are strongly curved, and all the tibiæ are densely clothed with golden hair on the inner face, for the lower half of their length.

RHINANDRUS Lec.

Caput magnum, pone oculos prolongatum; basi sensim angustatum, antice planiusculum, supra oculos haud carinatum; epistoma sutura trapezoidea obsoleta, antice feminæ truncatum, maris late licet profunde emarginatum; labrum transversum, membrana basali feminæ occulto, maris conspicuo, apice subemarginatum ciliatum; mandibulæ validæ apice late truncatæ; mentum transversum parvum, antice paulo latius, apice coreo-marginatum, ligula conspicua, apice integra, palpis labialibus distantibus ad latera insertis; maxillæ basi haud obtectæ, palpis articulo ultimo securiformi, latere interno et apicali æqualibus. Antennæ 11-articulatæ, articulo 1mo ovali, 2ndo minore, latitudine breviore; 3io sequente triplo longiore, 4–7 longitudine æqualibus, sensim paulo latioribus, parce punctatis, subcompressis; 8vo compresso, subtriangulari, ad apicem truncato, poroso, et parce setoso; 9no et 10mo brevioribus porosis, apice truncatis et parce setosis; 11mo ovato, poroso parse setoso, apice subacuto. Prosternum postice haud productum. Elytra ovalia elongata, leviter striata, thorace paulo latiora haud connata, epipleuris angustis ad apicem extensis. Scutellum triangulare. Metasternum brevi; coxis intermediis modice, posticis late distantibus. Abdomen articulo 1mo inter coxas oblique producto, processu basi late rotundato. Pedes elongati, graciles, tibiis tenuibus, latere interno aureo-pubescentibus, calcaribus terminalibus minutis; tarsis subtus aureo-pubescentibus, articulo posticorum 1mo elongato.

A singular insect, having the general appearance of certain *Eleodes*, like *E. gracilis*, but with a larger and longer head. The sexual difference in the anterior outline of the epistoma is very remarkable, and seems to indicate very complex affinities in the direction of *Helops*. The slight compression of the outer joints of the antennæ gives additional weight to this opinion, while the manner of distribution of the sensitive pores, in small rounded foveæ or large punctures, is nearly identical with that seen in *Cœlocnemis*, *Cibdelis*, and other forms allied to *Upis*.

In the male the epistoma is widely and deeply emarginate, leaving a large triangular space filled by the membrane con-

necting the labrum with the epistoma; in the female the epistoma is truncate, and the connecting membrane is invisible.*

394. Rh. gracilis. Elongatus ater subnitidus, capite elongato, punctulato, thorace lævi, latitudine vix breviore, antice fere truncato, lateribus rotundatis tenuiter marginatis, basi bisinuata, medio marginata, angulis anticis deflexis haud prominulis, posticis rectis retrorsum prominulis; elytris elongato-ovalibus, convexis, thorace duplo latioribus, basi subemarginatis, humeris subrotundatis, dorso striis utrinque 8 marginalique punctulatis, parum impressis; stria scutellari brevi fere obsoleta. Long. ·72—·75.

Cape San Lucas, Lower California; Mr. Xántus. The thorax is dull, impunctured, nearly truncate in front, with the apical angles not prominent, the sides are rounded, and widened to a little distance behind the middle, then narrowed to the base, which is slightly sinuate near the hind angles: these are rectangular and somewhat prominent: the base is finely margined by a slightly curved line extending to within a short distance of the hind angles, and in front of this line a slight transverse elevation is seen, anterior to which is a very vague transverse impression.

In the male the antennæ are longer than the head and thorax; but in the female they are a little shorter and more thickened externally.

XYLOPINUS Lec.

395. X. aenescens. Piceo-æneus nitidus, capite thoraceque sat dense minus fortiter punctatis, hoc latitudine breviore parum convexo, apice late emarginato, lateribus late rotundatis, tenuiter marginatis, basi truncata marginata utrinque foveata, angulis anticis rotundatis, posticis rectis, ante basin transversim impresso; elytris thorace latioribus, parallelis, convexis, striis impressis punctulatis, interstitiis planis, parce subtiliter punctulatis; antennis pedibusque concoloribus. Long. ·50—·57.

Mas, tibiis anticis ad medium latere interno obtuse dentatis, dein usque ad apicem late emarginatis; tarsis anticis et intermediis articulis 1–3 paulo dilatatis, subtus spongiosis.

Femina, tibiis anticis, tarsisque anterioribus simplicibus.

Middle and Western States. Quite distinct from *X. saperdoides* by the brassy lustre, the broader thorax, and by the transverse impression a short distance from the base, as well as by the elytral striæ being less impressed and less strongly punctured.

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* Lacordaire (Gen. Col. V, 377) mentions sexual differences in the form of the epistoma in certain species of *Zophobas*, which seem to be of a similar nature; but I do not know whether the basal membrane becomes visible when the emargination is deep.

The tooth at the middle of the internal side of the front tibiæ of the male is much less prominent than in *X. saperdoides* and *rufipes*, and the outline from the tooth to the tip much less concave.

HAPLANDRUS Lec.

396. H. concolor. Niger, subopacus, elongatus minus convexus, capite thoraceque punctatis, hoc quadrato, latitudine paulo breviore, apice emarginato, lateribus fere rectis tenuiter marginatis, basi late bisinuata, angulis posticis subrectis; elytris thorace parum latioribus, parallelis apice rotundatis, humeris rotundatis, elytris striis profundis punctatis, scutellari e punctis pluribus composita; antennis capite sesqui longioribus extrorsum magis incrassatis articulo 3io sequente haud longiore. Long. ·34.

Lake Superior and Canada. Differs from *H. femoratus* by the lustre being less opaque, by the thorax being broader, and nearly as wide as the elytra; by the feet being black, by the eyes more strongly transverse, and by the antennæ being shorter and more thickened externally. The outer joints of the antennæ are transverse, and fully twice as wide as their length. The body beneath is shining and finely but not densely punctured; the under surface of the prothorax is coarsely punctured.

Haplandrus differs from *Xylopinus*, *Upis* and other allied genera, not only by the characters given in the synoptic table,* but by the prosternum being prolonged behind the front coxæ, fitting into the concave mesosternum. The legs are slender and alike in both sexes; the hind tarsi are short, with the first joint as long as the two following, and the last joint longer than the other united. The epipleuræ extend almost to the tip in *H. femoratus*, but are a little shorter in this species, reaching however beyond the last ventral suture.

I have mentioned, in establishing the genus, that three species were known to me; but on closer examination, I find that the supposed third species proves to belong to *Metaclisa* Duval.

IPHTHIMUS Truqui.

397. I. opacus. Niger opacus, capite scabro, medio rugoso, thorace transverso, latitudine fere duplo breviore, angulis anticis valde rotundatis, lateribus repandis postice sinuatis, angulis posticis productis divaricatis acutis, disco scabro medio subcanaliculato, callo parvo discoidali utrinque signato; elytris thorace latioribus parallelis, apice oblique angustatis, humeris rotundatis, confertim rugose punctulatis, striis e punctis linearibus disjunctis hic inde confluentibus compositis; subtus dense rugose punctatis; antennis capite thoraceque brevioribus, extrorsum sensim crassioribus, articulo 3io sequente sesqui longiore. Long. ·60—·85.

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* Class. Col. North America, p. 230.

Not uncommon in the northern part of the United States, and in Canada. It is somewhat remarkable that a species so well known in collections should not have been heretofore described.

THARSUS Lec.

398. Th. seditiosus. Elongatus depressus, rufo-ferrugineus, nitidus, capite thoraceque punctatis, hoc latitudine breviore, angustato, lateribus marginatis antice paulo rotundatis, apice late emarginato, angulis anticis acutis, ad basin bisinuato, angulis posticis rectis; elytris parallelis, apice obtuse rotundatis, striis impressis, punctatis, interstitiis parce punctulatis paulo convexis; subtus punctatus; antennis capite thoraceque brevioribus, extrorsum incrassatis, articulo 3io sequente haud longiore. Long. ·20.

Southern States; not uncommon under bark. This insect resembles in form *Uloma punctulata,* but is much smaller. It differs generically from *Uloma* by the front tibiæ being slender and not serrate, and from *Ulosonia* by the epipleuræ not extending beyond the last ventral suture. The tarsi are clothed with long coarse hair beneath; the first joint of the hindmost pair is scarcely longer than the 2d, and the 4th joint is longer than the three others united, with the ungues large. The last joint of the maxillary palpi is triangular; the mentum is small, trapezoidal, with the anterior angles bent inwards. The eyes are reniform, transverse, and slightly emarginated by the sides of the epistoma. The 1st joint of the antennæ is as long as, but thicker than the 3d, the 2d is shorter than the 3d, which is scarcely longer than the 4th; the joints 3–10 are equal in length, but gradually become broader, the 9th and 10th being nearly twice as wide as their length; the 11th is larger, rounded. The prosternum is flat behind the coxæ, and not prominent; the mesosternum is declivous, and concave; the middle coxæ are inclosed by the sternal pieces, and entirely without trochantin.

This and the other genera with slender front tibiæ which I have placed in the tribe *Ulomini* cannot be associated with *Diaperini* in consequence of the epistoma being somewhat prolonged, entirely concealing the membrane at the base of the labrum, and of the middle coxæ being inclosed so as to render the trochantin invisible.

Duval, in separating the allies of *Diaperis* from those of *Uloma*, has considered the form of the tibiæ as of primary importance; the close resemblance in all other characters of value between our genera shows that character is not to be relied on; and I prefer returning to the one established by Lacordaire, derived from the form of the middle coxæ; adding to it the prolonged epistoma, which conceals the clypeus.

ULOMA Redt.

399. U. imberbis. Ovalis modice elongata, picea nitida, capite antice lunatim impresso et inter oculos transversim impresso, thorace punctulato, longitudine sesqui latiore, a basi præcipue ante medium angustato, lateribus marginatis late rotundatis, basi vix bisinuata, immarginata; elytris striis punctatis, interstitiis obsolete punctulatis; tibiis anticis 7–9 denticulatis; mento transverso, late concavo, maris lævi, feminæ fortiter punctato. Long. ·33—·36.

An abundant species from New York to Kansas. This species (by description) differs from the European *U. perroudi* by the thorax being narrowed from the base—the sides even near the hind angles not being parallel.

The male has the mentum somewhat more cordiform than the female, broadly concave, and not punctured; the thorax is less rounded on the sides, less narrowed in front, and has a distinct but vague transverse impression near the tip.

It is evident that the species of *Uloma* are more numerous than was formerly believed, but it is quite possible that some of the species here described may be identical with those already known from distant parts of the globe. *U. impressa*, which has been commonly considered as *U. culinaris*, introduced in articles of commerce, differs from the European species described under that name by the medial plate of the mentum being entirely glabrous, angulated at the sides, slightly concave and feebly punctured at the middle, sulcate at the sides in the male; flatter, strongly punctured, and more deeply sulcate each side in the female.

The species of *Uloma* in my collection are easily distinguished by the following characters :—

A. Middle plate of mentum oval, not transverse, lateral lobes distinct, inflexed. IMPRESSA.

B. Middle plate of mentum transverse, oval, or subcordiform, smooth and concave in the male, strongly punctured in the female, lateral lobes not visible ;
  Striæ of elytra deep, strongly punctured ;
    Thorax narrowed from the base. IMBERBIS.
    Sides of thorax parallel behind the middle ;
      Elytral intervals sparsely punctulate. CAVA.
      Elytral intervals densely punctulate. PUNCTULATA.
  Striæ of elytra not deep, intervals flat, punctulate. LONGULA.

400. U. cava. Elongata, piceo-ferruginea, nitida, capite antice lunatim impresso, inter oculos profunde transversim impresso, occipite breviter canaliculato, thorace subtilius punctato latitudine paulo breviore, ante medium angustato, lateribus fortiter marginatis, antice magis rotundatis postice fere parallelis ; elytris striis profundis punctatis, interstitiis paulo convexis parce punctulatis ; tibiis anticis 6–7 denticulatis ; mento (maris) transverso, ovali, lævi, medio concavo. Long. ·28.

One specimen, from Louisiana. Of the same general form as the preceding, but easily distinguished by the smaller size, and by the characters given above. Several small impressed foveæ are visible on the thorax, but believing them to be accidental, I have not mentioned them in the diagnosis.

401. U. punctulata. Valde elongata, piceo-ferruginea, nitida, capite antice lunatim impresso, inter oculos breviter transversim impresso, thorace subtilius punctato, latitudine paulo breviore, lateribus marginatis, antice paulo rotundatis postice rectis parallelis ; elytris striis profundis punctatis, interstitiis parum convexis sat dense punctulatis ; tibiis anticis 5–6 dentatis ; mento transverso, ovali, (maris paulo concavo, lævi, feminæ fortiter punctato). Long. ·30—·33.

Middle and Southern States. The thorax of the male is rather broader than that of the female, and is very obsoletely impressed near the tip in one specimen, and more rounded on the sides near the anterior angles. This species differs from all the others by the somewhat narrower form, by the side margin of the thorax being a little narrower, but especially by the elytra being more strongly and densely punctulate.

This species has been distributed under the name *U. ferruginea* Say, but the species mentioned by Say is a *Tribolium.*

PHALERIA Latr.

402. P. pilifera. Ovalis minus elongata, utrinque obtuse rotundata, nigra subnitida, subtiliter parce punctulata, thorace latitudine sesqui breviore, lateribus antice fortiter rotundatis, basi tenuiter marginata utrinque puncto impresso; elytris thoracis basi haud latioribus, striis obsolete punctatis, postice paulo profundioribus; subtus prosterno, prothoracis margine, epipleurisque longe parce pilosis, pilis flavis e granulis oreuntibus; antennis pedibusque piceis vel obscure testaceis, femoribus posterioribus rude foveatim punctatis. Long. ·23—·28.

Cape San Lucas, Lower California; collected by Mr. Xántus. Of the same form, size, and sculpture as *P. rotundata;* were it not for the difference in the sculpture of the middle and hind femora I should have regarded it as a black variety of that species: the femora are strongly but sparsely punctured in *P. rotundata,* while in *P. pilifera* they are so large as to become foveæ; the marginal hairs are also longer and more numerous.

The species in my collection may be distinguished as follows:—

A. Oval, finely punctulate species; antennæ with the outer joints transverse;
* Base of thorax finely margined;
Elytra not wider than base of thorax;
Margin of thorax and elytra with long hairs;
Black, legs piceous, femora rudely punctured. PILIFERA.
Testaceous, sometimes black beneath, femora sparsely punctured. ROTUNDATA.
Margin without hairs; color variable;
Sides of thorax converging from the base. TESTACEA.
Sides of thorax parallel behind the middle LONGULA.
Elytra wider than base of thorax; color black PICIPES.
** Base of thorax not margined. DEBILIS.

B. Small, rounded, strongly punctured species; antennæ with the outer joints not transverse;
Convex, testaceous, with black elytral spots. GLOBOSA.
Less convex, black, with red humeral spots. HUMERALIS.

403. P. longula. Elliptica, elongata, picea, vel nigra, thorace parce punctulato, antrorsum angustato, lateribus antice rotundatis postice fere parallelis, basi tenuiter marginata utrinque striola parva impressa;

elytris basi thorace haud latioribus, striis antice obsolete punctatis postice profunde impressis; antennis pedibusque piceo-testaceis. Long. ·22.

Mississippi Island, Gulf of Mexico; collected by Surgeon Thos. Hewson Bache, U. S. V., and given to me by Dr. S. Lewis. Much smaller and somewhat narrower than *P. testacea*, and resembling *P. picipes:* on comparison it differs from that species by the base of the thorax being as wide as the elytra, so that the humeral angles do not project, and by the sides of the thorax being more nearly parallel behind.

In one specimen the color is almost black; in another the thorax is dark testaceous, the elytra black, with the base and sides pale testaceous.

In *P. picipes* the first three joints of the anterior tarsi of the male are dilated, the 2d and 3d becoming strongly transverse: I do not find this character in any other species in my collection, except *P. globosa.*

404. P. debilis. Elongata, ovalis, testacea subnitida, capite parce subtiliter punctato, thorace vix punctulato, latitudine fere duplo breviore, a basi antrorsum angustato, lateribus oblique rotundatis, basi haud marginata puncto utrinque impresso; elytris thoracis basi haud latioribus, gutta parva fusca utrinque ad medium ornatis, striis punctulatis antice obliteratis, versus apicem paulo impressis; prosterno pilis paucis ad apicem; femoribus parce punctatis. Long. ·20—·24.

Cape San Lucas, Lower California; collected by Mr. Xántus. Of the same form as *P. testacea*, but smaller, with the thorax wider and not margined at the base, and the elytral striæ not at all impressed in front of the middle. The extreme margin of the base of the thorax, as in the other species, is smooth and polished, but is not limited by a distinct marginal line.

PENTAPHYLLUS Latr.

405. P. pallidus. Ellipticus, elongatus convexus, testaceus, subtiliter punctatus, brevissime parce pallide pubescens, prothorace basi recta, utrinque tenuiter marginata, angulis subrotundatis; tibiis anticis haud dilatatis; epistoma apice late rotundatum. Long. ·10.

One specimen; Pennsylvania: also found by Mr. Ulke in Maryland. Belongs to the same division of the genus as the European *P. testaceus*, having the epistoma broadly rounded, and the anterior tibiæ not dilated: it differs from that species by the body beneath being not black, but of the same color as the upper surface. The antennæ are one-third shorter than the head and thorax and considerably thickened externally.

METACLISA DuVal.

406. M. atra. Elongata convexa, nigra subnitida, capite confertim, thorace fortius punctato, hoc latitudine fere duplo breviore, lateribus rotundatis, apice emarginato, angulis anticis rotundatis, basi utrinque obliqua medio rotundata haud marginata, angulis posticis obtusis haud rotundatis; elytris thorace vix latioribus postice obtuse rotundatis, striis profundis fortiter punctatis, interstitiis convexis punctulatis, stria scutellari e punctis 4–6 composita; subtus picea nitida parce punctulata, propleuris parce rude punctatis, gula scabro-punctato, antennis pedibusque obscure ferrugineis. Long. ·30—·35.

Atlantic States, from New York to Texas. I formerly regarded this insect as a species of *Haplandrus*, but it differs from the Tenebrionini and Ulomini by the basal membrane between the clypeus and epistoma being visible, and in fact the head resembles in all respects the head of *Platydema*, except that the eyes are less prominent; the middle coxæ are but loosely inclosed by the episterna, and the trochantin is quite distinct.

The genus is readily distinguished from the others of the tribe by the mentum being trilobed, rounded at tip, with the lateral lobes short and inflexed as in many Tenebrionini: the epipleuræ do not extend to the tip of the elytra; the last joint of the hind tarsi is longer than the other three, and the first is scarcely as long as the two following united; the last joint of the maxillary palpi is triangular and dilated as in *Platydema*, and the intercoxal process of the first ventral segment is triangular and rounded at tip. The antennæ are nearly as long as the head and thorax, and are moderately thickened externally; the 3d joint is twice as long as the 2d; the 4th and 5th are shorter, but scarcely broader than the 3d; the 6th and 7th are triangular, the 8th, 9th, and 10th transverse, and the 11th rounded, not broader than the preceding. The form of the antennæ is more that of the Tenebrionini than Diaperini, but the head is received in the prothorax as far as the eyes, as in the latter tribe.

EVOPLUS Lec.

Corpus elongato-ovale, convexum, alatum, glabrum. Caput maris bicornutum, feminæ simplex, pone oculos paulo prolongatum; oculi fortiter granulati transversi, cantho breviter emarginati; epistoma sutura frontali distincta, breve, antice late rotundatum, lateribus ultra oculos haud prominulis, margine apicali coriaceo, sutura haud separato; labrum breve antice rotundatum. Antennæ capite paulo longiores, incrassatæ, perfoliatæ, articulis 1–3 haud dilatatis, 2ndo breviore, 4to triangulari latiore, 5–10 transversis, 11mo ovato, externis nitidis vix punctatis, laxe pilosis. Mentum triangulare, ligula apice integra, palpis labialibus brevibus, cylindricis. Mandibulæ apice acute bifidæ; palpi maxillares articulo ultimo elongato-ovali. Elytra apice conjunctim rotundata, epipleuris ad suturam ultimam ventralem extensis, abdomine haud breviora, pygidio occulto. Prosternum postice declive, mesosternum parvum declive; abdomen processu intercoxali lateribus obliquis, apice truncato, suturis tertia et quarta exaratis. Pedes mediocres, tibiis anticis paulo dilatatis, extus subtiliter serrulatis, apice recte truncatis; coxis mediis episternis arcte inclusis, trochantino nullo; tibiis posterioribus gracilibus, calcaribus minutis; tarsis breviusculis, subtus setosis, posticis articulo 1mo sequentibus duobus haud longiore; ultimo longiore.

The head of the male, although armed with two long horns, is quite different from that of *Hoplocephala:* in the latter the horns are between the eyes, not in contact with their margin, and the vertex and occiput are deeply excavated at the middle; the anterior margin of the epistoma is reflexed and bidentate. In the present genus the horns rise abruptly from the inner margin of the eyes, and there is a large rounded excavation behind each of them, the middle of the vertex and occiput being convex; the epistoma is not margined or prominent in front, although armed with two small, distant, dentiform tubercles.

407. E. ferruginea. Elongato-ovalis, convexa, ferruginea nitida, capite punctulato, thorace punctato, basi vix bisinuata tenuiter marginata; elytris striis profundis punctatis, interstitiis convexis parce punctulatis, stria scutellari brevi. Long. ·20.

Mas capite cornubus duobus elongatis cylindricis armato, pone cornua utrinque valde excavato; epistomate versus apicem denticulis duobus remotis armato, dein subsinuato.

Femina capite mutico, fronte lunatim impresso, epistomate apice late truncato.

Louisiana; Messrs. Wapler and Guex. A very singular insect,

which might, without examination, be considered as belonging to *Hoplocephala*.

HYPOPHLOEUS Fabr.

408. H. cavus. Elongatus cylindricus, piceus nitidus, haud dense punctatus, pilis longis helvis parce vestitus, capite punctulato, fronte transversim impresso, vertice subcanaliculato; thorace latitudine longiore, angulis anticis valde rotundatis, basi tenuiter marginata utrinque obliqua ad medium rotundata, disco longitudinaliter, præcipue antice, late concavo; antennis pedibusque ferrugineis. Long. ·15.

One specimen, Kentucky; Mr. J. Ph. Wild. The punctures of the elytra are fine, and not arranged in rows; near the base there is a slight longitudinal subsutural impression. The anterior tibiæ are gradually dilated, and the external apical angle is acute. The form is rather broader and less convex than in the other two species.

DELOPYGUS Lec.

Corpus oblongum depressum, alatum, glabrum; caput in thorace usque ad oculos receptum; oculi valde transversi emarginati, haud approximati; epistoma sutura frontali obsoleta, breve antice late rotundatum, lateribus ultra oculos haud prominulis; labrum transversum, apice late rotundatum, membrana basali conspicua; antennæ capite thoraceque haud breviores, extrorsum parum incrassatæ, articulo 3io præcedente sesqui longiore, 4–6 sensim paulo latioribus, 7–10 æqualibus paulo latioribus, crassitie haud brevioribus, ultimo ovali paulo longiore, externis punctatis, nitidis, laxe pilosis. Mentum trilobatum, lobo medio elevato, subtriangulari, lateribus depressis, inflexis; ligula apice integra, palpis labialibus brevibus articulo ultimo triangulari; mandibulæ apice emarginatæ; palpi maxillares articulo ultimo dilatato, securiformi, latere interiore apicali plus sesqui breviore. Elytra apice conjunctim rotundata, epipleuris ad suturam ultimam ventralem extensis, abdomine paulo breviora, pygidio prominulo. Prosternum pone coxas anticas paulo productum et apice mucronatum. Mesosternum excavatum; abdomen processu intercoxali lateribus obliquis, apice late truncato. Pedes mediocres, tibiis anticis sensim paulo dilatatis, apice oblique truncatis, extus subtiliter serrulatis; coxis mediis episternis arcte inclusis, trochantino nullo; tarsis subtus setosis, posticis articulo 1mo sequentibus duobus longiore, 4to æquali.

It is with regret that I increase the very large number of genera recognized in the family *Tenebrionidæ*, but the structural differences here detailed are such as to prevent the reference of the species to any of the described genera.

This genus, while showing a strong affinity with *Uloma* and

Alphitobius, differs from them by the epistoma being shorter, less prominent at the sides, by the frontal suture being obsolete, and by the basal membrane of the labrum being visible. From the other genera of the tribe *Hypophlœini*, it will be readily distinguished by the table given below.*

It seems, by the exposed pygidium, to be nearly related to the European genera *Cataphronetis* and *Pygidophorus*, but differs from the latter by the eyes not being approximate beneath, and from both by the form of the last joint of the maxillary palpi.

409. D. crenatus. Elongatus, subdepressus, piceus vel rufo-piceus nitidus, capite thoraceque sat dense subtilius punctatis, hoc latitudine paulo breviore, antrorsum subangustato, apice emarginata, angulis anticis rotundatis, lateribus paulo rotundatis tenuiter marginatis, basi vix bisinuata, immarginata; elytris striis tenuibus fortiter punctatis, interstitiis vix convexis punctulatis; subtus fortiter punctatus. Long. ·22.

One specimen from Texas, sent me by Mr. Sallé; another of uncertain locality, but I think from New York. Resembles in appearance a small *Uloma*, but easily distinguished by the generic characters. The striæ of the elytra are fine, and a little deeper behind; they are strongly punctured, with the interstices nearly flat, and finely but not densely punctulate, the 4th and 8th striæ are shorter than the others; the 5th and 6th unite together near the end of the 4th, and their prolongation reaches the 3d stria near the tip of the elytra. Beneath coarsely punctured.

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* The increase of the genera of *Hypophlœini* renders imperfect the table on page 238 of the Class. Col. N. America, but the following synopsis expresses the relations of the genera now before me:—

- A. Antennæ dilated and perfoliate (epipleuræ not extending to the tip of the elytra);
  - Pygidium not exposed; anterior tibiæ dilated, serrate. Evoplus.
  - Pygidium exposed; anterior tibiæ slightly dilated, not serrate. Hypophlœus.
- B. Antennæ slender, 5th joint not dilated;
  - Outer joints gradually larger;
    - Pygidium partly exposed; anterior tibiæ slightly dilated, very obliquely truncate at tip;
  - Anterior tibiæ finely denticulate externally; epipleuræ slightly abbreviated. Delopygus.
  - Anterior tibiæ not serrate; epipleuræ extending to the tip. Eutochia.
    - Pygidium entirely covered by elytra;
  - Tibial spurs distinct; epipleuræ not extending to tip. Sitophagus.
  - Tibial spurs obsolete; epipleuræ extending to tip. Prateus.
  - Last two joints of antennæ suddenly larger. Diœdus.

PRATEUS Lec.

410. P. fusculus. Elongatus, subcylindricus, piceus nitidus, fortiter punctatus, thorace latitudine paulo breviore, angulis anticis rotundatis, lateribus late rotundatis, angulis posticis subrectis, basi late rotundata, vix tenuiter marginata; elytris thorace vix latioribus, subtus fortiter punctatus; pedibus ferrugineis, tibiis anticis haud dilatatis, antennis capite thoraceque haud brevioribus, articulo 3io 2ndo vix longiore, ultimis tribus modice incrassatis. Long. ·14.

Lec. Class. Col. N. America, 238.

New York, two specimens. This genus will be readily recognized by the epistoma being broadly rounded in front, not separated from the front by a suture; the basal membrane of the labrum visible; eyes not emarginate, frontal margins very short, nearly as in *Hypophlœus;* antennæ slender, with the 3d joint scarcely longer than the 2d, and the last three joints about one-half wider than the 8th. The epipleuræ extend to the tip of the elytra, which are entirely destitute of striæ; the prosternum is not prominent behind the front coxæ, which are small and rounded; middle coxæ closely surrounded by the episterna, trochantin not visible; mesosternum declivous, scarcely concave; last two ventral sutures deeply impressed; legs moderate, tibia not dilated, spurs very minute, tarsi hairy beneath, last joint as long as the others united, with large claws.

The total absence of the frontal suture is a rare character, but is found in several genera of this tribe. I also observe that the gula is longitudinally impressed at the middle; the mentum is very small, and the last joint of the maxillary palpi slightly dilated and triangular.

DIOEDUS Lec.

411. D. punctatus. Oblongo-elongatus, convexus, testaceus vel fusco-testaceus, nitidus, glaber, capite sat dense punctato, fronte transversim leviter impresso, thorace fortiter punctato, latitudine breviore, antrorsum vix angustato, apice late emarginata, lateribus parum rotundatis, fortiter anguste marginatis, basi late rotundata tenuiter marginata, angulis posticis subrectis; elytris striis exaratis fortiter

punctatis, interstitiis convexis vix conspicue punctulatis, stria scutellari nulla; subtus prosterno subrugoso, metasterno fortiter, abdomine subtiliter parce punctato, tibiis anticis sensim dilatatis, 4–5 denticulatis. Long. ·10—·13.

Lec. Class. Col. North America, 238.

A common species in the Middle and Southern States, found under bark of dead yellow pines. This genus seems to be related to the European *Phthora*, but only the 10th and 11th joints of the antennæ are enlarged, forming a small club; the epistoma is very stout and very slightly prominent at the sides; there is no frontal suture; the basal membrane of the labrum is exposed; the eyes are small, slightly transverse, and scarcely emarginated by the sides of the epistoma. The epipleuræ are rather broad, and extend to the tip of the elytra.

HELOPS Fabr.

412. H. impolitus. Alatus, æneo-niger opacus, capite thoraceque sat dense punctatis, hoc parum convexo latitudine breviore subquadrato, lateribus antice rotundatis postice fere rectis, apice late emarginato, angulis anticis vix rotundatis, basi truncata, tenuiter marginata, angulis posticis rectis; elytris oblongis thorace latioribus, lateribus fere parallelis, punctis elongatis seriebus 8 digestis, alteraque brevi subscutellari, interstitiis parce punctulatis; subtus subtilius, propleuris rugose punctatis, antennarum articulo ultimo præcedenti æquali. Long. ·52.

One specimen from Texas, in the collection of Mr. Ulke. Quite distinct by the characters given above. In form it resembles *H. undulatus*, but in sculpture is very different.

413. H. undulatus. Alatus, elongato-oblongus, nigro-æneus, æneo viridique variegatus, capite confertim punctato, thorace latitudine breviore, parum convexo, ad apicem paulo angustato, late emarginato, lateribus late rotundatis, undulatis, tenuiter marginatis, angulis posticis rectis, basi marginata, disco confertim punctato, ad basin utrinque subfoveato, ante basin transversim vage impresso; elytris transversim convexis, thorace paulo latioribus, lateribus parallelis fortiter marginatis, striis profundis subpunctatis, scutellari distincta, interstitiis planis parce punctulatis; antennis elongatis, gracilibus. Long. ·46—·53.

Mas antennis corporis dimidio longiores, tarsis anterioribus articulis 1–3 modice dilatatis, subtus spongiosis.

Femina antennis brevioribus, tarsis minus dilatatis.

Middle and Southern States; not rare. The side-pieces of the prothorax are densely and coarsely punctured, and somewhat

rugous; the side-pieces of the trunk are densely punctured, and the abdomen is more finely punctured and more shining; the prosternum is densely, and the metasternum sparsely punctured.

The slightly undulated outline of the sides of the thorax will enable this species to be easily recognized.

414. H. punctipennis. Alatus, elongatus, ater, vix æaenescens, subopacus, capite thoraceque confertim punctatis, hoc parum convexo latitudine haud breviore, quadrato, lateribus subtiliter marginatis antice rotundatis postice subsinuatis, apice truncato, angulis rotundatis, basi vix bisinuata, tenuiter marginata, angulis posticis rectis; elytris thorace paulo latioribus, oblongo-ovalibus, transversim convexis, lateribus modice marginatis, striis profundis, interstitiis subplanis inæqualibus sat dense subtilius punctatis; prothorace subtus dense rugose. metathorace fortiter, abdomine subtiliter punctato; antennis (maris) elongatis extrorsum parum incrassatis. Long. ·36.

A mutilated specimen from California, kindly given me by Mr. J. Akhurst. The form is as elongated as *H. gracilis*, but the elytra are marked with transverse rugosities as in *H. rugulosus* and *opacus.* The antennæ are more than half the length of the body, not very slender, and the 9th and 10th joints are about twice as long as their width.

415. H. sulcipennis. Apterus, modice elongatus, nigro-æneus nitidus, viridi variegatus, capite thoraceque fortiter dense punctatis hoc latitudine haud breviore, lateribus late rotundatis tenuiter marginatis, modice convexo, apice truncato angulis haud rotundatis, basi late rotundata tenuiter marginata, angulis posticis subrectis; elytris ovalibus thorace latioribus, striis profundis externis punctatis, interstitiis convexis vix punctulatis; prothorace subtus plicato-punctato, metathorace rude, abdomine subtilius punctato; antennis (maris) elongatis, gracilibus, extrorsum parum incrassatis. Long. ·30.

One specimen found by me on Mount Yona, Habersham Co., Georgia. Three joints of the front and middle tarsi are moderately dilated and spongy beneath. The 9th and 10th joints of the antennæ are longer than twice their width. The elytra are as deeply striate as in *H. venustus.*

416. H. rugicollis. Apterus, elongatus, æneo-piceus, subnitidus, capite thoraceque confertissime longitudinaliter aciculatis, hoc subquadrato latudine paulo breviore, transversim parum convexo, apice basique fere truncato, angulis anticis fere rotundatis, lateribus late rotundatis, angulis posticis obtusis subrotundatis; elytris oblongis, thorace haud latioribus, punctis elongatis seriebus 8 alteraque brevi subscutellari digestis, parum distinctis propter interstitias fortiter punctatas; subtus ferrugineus confertim punctatus, breviter pubescens, propleuris dense rugosis, antennarum articulis 8–11 sensim paulo brevioribus. Long. ·46.

One specimen from California, in the collection of Mr. Ulke. Related to *H. bachei*, but the thorax is not rounded, and the punctures of the interstices of the elytra are nearly as large as those of the striæ, so that the latter are not very distinct. The under surface is also more strongly punctured, and distinctly pubescent. The antennæ are somewhat shorter, more decidedly thickened externally, and the joints 8–11 diminish more distinctly in length.

417. H. discretus. Apterus, æneo-niger, capite thoraceque confertim aciculato-punctatis, hoc latitudine breviore, antice posticeque fere truncato, lateribus late rotundatis, angulis anticis rotundatis, posticis subrectis; elytris subnitidis elongato-ovalibus, a basi paulo ampliatis et dein thorace paulo latioribus, transversim convexis, punctis elongatis discretis seriebus 8 digestis, alteraque brevi subscutellari, interstitiis parce subtiliter punctulatis; subtus subtilius, propleuris confluenter punctatis, ore tarsisque piceis, antennarum articulis 8–11 sensim paulo brevioribus. Long. ·44.

Texas; one specimen in the collection of Mr. Ulke. Related to *H. cisteloides*, but the punctuation of the head and thorax is more dense, and distinctly aciculate, and the last joint of the antennæ is decidedly shorter than the preceding; the metasternum is less strongly, and the propleura more rugosely punctured.

418. H. tumescens. Apterus, robustus, piceus, subænescens, capite thoraceque confertim punctatis, hoc longitudine fere duplo latiore, obsolete canaliculato, lateribus postice parallelis, ante medium subangulatis, apice truncato, basi late rotundata, angulis posticis obtusis; elytris ovalibus convexis, a basi ampliatis, dein thorace tertia parte latioribus, striis utrinque 8, marginali alteraque brevi subscutellari impressis, punctatis, interstitiis subconvexis vix conspicue punctulatis; subtus rufo-piceus sat fortiter, propleuris dense rugose punctatis, antennarum articulis ultimis fere æqualibus, vix dilatatis. Long. ·42.

One specimen from California, in the collection of Mr. Ulke. The antennæ are nearly filiform, and the outer joints nearly three times as long as their width.

HYMENORUS Muls.

419. H. communis. Elongato-ovalis, piceus nitidus helvo-pubescens, capite thoraceque fortiter punctatis, hoc latitudine sesqui breviore, antrorsum angustato, lateribus rotundatis tenuiter marginatis, basi bisinuata tenuissime marginata, trifoveata; elytris striis fortiter dense punctatis, interioribus paulo impressis, scutellari distincta, interstitiis parce subtiliter punctatis; ore antennis pedibusque testaceo-ferrugineis, femoribus paulo infuscatis. Long. ·22—·24.

Not rare in the Middle and Southern States. The species of *Hymenorus* in my collection may be distinguished by the subjoined table:—

A. Surface shining, punctuation of thorax not dense;	
a. Elytra of uniform color;	
Thorax finely punctured.	1. PUNCTULATUS.
Thorax not finely punctured, twice as wide as long;	
Striæ not impressed, punctures distant.	2. PILOSUS.
Striæ scarcely impressed, punctures approximate;	
Feet entirely rufo-testaceous.	3. OBSCURUS.
Thighs nearly yellow, tibiæ darker (pubescence finer and nearly cinereous).	4. NIGRA.
Thorax not finely punctured, one-half wider than long.	5. COMMUNIS.
b. Elytra ferruginous at base.	6. HUMERALIS.
B. Surface less shining;	
Thorax densely and coarsely punctured;	
Sides parallel behind.	7. RUFIPES.
Sides narrowed from the base to the tip;	
Head, thorax, and elytra uniform piceous.	8. CONFERTUS.
Head and thorax dull red, elytra piceous.	9. DENSUS.
Thorax very finely and densely punctured.	10. PUNCTATISSIMUS.

In *H. obscurus* and *communis* the males differ from the females by the 3d joint of the antennæ being but little longer than the 2d, while in the females the 3d joint is nearly or quite as long as the 4th; in division B the 3d joint is as long as the 4th in both sexes, but the antennæ are more strongly serrated from the 4th joint inclusive, than in the females. In *H. punctatissimus* the internal angle of the last joint of the maxillary palpi is more rounded than in any of the other species.

420. H. humeralis. Nigro piceus, nitidus, helvo-pubescens, capite thoraceque haud dense punctatis, hoc latitudine sesqui breviore, a basi

antrorsum angustato, lateribus rotundatis subtiliter marginatis, basi medio late rotundata utrinque recte truncata subtilissime marginata, angulis posticis fere rectis, dorso ante basin vage foveato; elytris macula subbasali indeterminata ferruginea, striis vix impressis fortiter punctatis, interstitiis subtiliter sat dense punctatis; ore pedibusque flavo-testaceis, antennis fuscis, basi flavo-testaceis. Long. ·18.

One specimen collected in Kentucky by Mr. J. Ph. Wild. Quite distinct from the other species by the elytra being ferruginous near the base, causing a strong resemblance in appearance to *Hallomenus scapularis.* The antennæ are moderately stout, rather more than half as long as the body, and the 3d joint is more slender but not shorter than the 4th.

421. H. rufipes. Elongatus, nigro-piceus minus nitidus, pubescens, capite thoraceque dense minus subtiliter punctatis, hoc latitudine paulo breviore, lateribus antice rotundatis postice fere parallelis, subtiliter marginatis, basi late bisinuata tenuiter marginata, angulis posticis subrectis, ante basin subfoveato; elytris striis subimpressis dense punctatis, interstitiis parce subtiliter punctatis; abdomine rufo-piceo; ore pedibusque testaceis, antennis fuscis basi testaceis. Long. ·19.

Mycetophila rufipes Leconte, Annals Lyceum Nat. Hist. New York, I, 170, pl. xi, f. 2.

One specimen; New York. Easily recognized by the thorax being less transverse, and more coarsely and densely punctured. The antennæ are half as long as the body, moderately stout, with the third joint equal in length to the 4th, but a little more slender.

The original description of this species is very brief, and its recognition will be rendered more easy by the diagnosis above given.

422. H. confertus. Piceus vel piceo-testaceus subopacus, dense helvo-pubescens, capite thoraceque dense punctatis, hoc latitudine sesqui breviore a basi antrorsum angustato, lateribus rotundatis, subtiliter marginatis, basi late bisinuata tenuiter marginata, angulis posticis rectis; elytris striis paulo impressis, punctis approximatis, interstitiis confertim subtiliter punctatis, antennis palpis pedibusque fusco-testaceis vel testaceis. Long. ·22—·26.

Cape San Lucas, Lower California, collected by Mr. John Xántus. The only sexual difference is in the size of the eyes which are larger and less distant above in the male than in the female. The antennæ in both sexes are less than half the length of the body, moderately stout, and not serrate, with the 3d joint equal in length to the 4th, but a little more slender.*

* Several of the genera of *Cistelidæ*, now recognized by me as represented in North America, are not mentioned in the table of genera on p. 244 of the Classification of Coleoptera. The following table should be substituted :—

A. Mandibles emarginate at tip (truncate in *Stenochidus*) ;
a. Body Upiform, thorax subquadrate, narrower than the elytra, which are elongate, and deeply striate ; penultimate joint of tarsi lobed. UPINELLÆ.
This group is represented by *Stenochidus*, which differs from the European *Upinella* by the mandibles less emarginate at tip, and the last joint of maxillary palpi comparatively much longer, the external side being nearly twice as long as the basal side.
b. Body oval, thorax widest at base, with basal angles distinct. CISTELÆ.
* Penultimate joint of tarsi lobed beneath ;
Last joint of maxillary palpi with the apical side longest. ALLECULA.
Last joint of maxillary palpi with the apical side nearly equal to the external (hind angles of thorax nearly rectangular.) HYMENORUS.
** Tarsi not lobed beneath ;
Last joint of maxillary palpi elongate triangular. CISTELA.
Last joint of maxillary palpi broad triangular ;
Third joint of antennæ nearly equal to the 4th ;
Anterior tarsi as long as the tibiæ ; antennæ slender. ISOMIRA.
Anterior tarsi shorter than the tibiæ ; antennæ stout. MYCETOCHARES.
Third joint of antennæ much shorter than the 4th (6th ventral segment visible) ;
Antennæ strongly serrate, 2d and 3d joints equal. CHROMATIA.
Antennæ elongated, not serrate, 3d joint longer than 2d. CAPNOCHROA.
B. Mandibles acute at tip ; 6th ventral segment visible. CTENIOPI.
Hind coxæ divided by a transverse groove ; the posterior portion larger, flat, with the hind edge acute ;
Anterior tarsi elongated, deformed in the male. ANDROCHIRUS.
Hind coxæ divided into two nearly equal portions ;
Antennæ slender, hind angles of thorax rectangular. CTENIOPUS.

The species of *Cistela* are easily recognized by the last joint of the maxillary palpi being elongate triangular, the apical side much shorter than either of the other two in the first division, equal to the basal one in the second. They form two divisions ; in the first (as in the European

423. H. densus. Piceus subopacus, dense helvo-pubescens, capite thoraceque obscure ferrugineis, dense punctatis, hoc latitudine sesqui breviore, a basi antrorsum angustato, lateribus rotundatis subtiliter marginatis, basi late bisinuata tenuiter marginata, angulis posticis rectis, elytris striis impressis punctis approximatis, interstitiis confertim subtiliter punctatis; pectore rufescente, pedibus testaceis, antennis fuscis articulis tribus primis oreque rufo-testaceis; abdomine nigro nitido parce subtilius punctato. Long. ·27.

Two specimens from Florida, given me by Mr. Ulke. Differs from the preceding not only by the color, but by the abdomen being less closely punctured. The antennæ are scarcely longer than the head and thorax, and are stouter than usual; they are moderately serrate in the male, but scarcely so in the female; the 3d joint is slender, and as long as the 4th; the eyes are alike in both sexes.

424. H. punctatissimus. Fuscus subopacus, pube brevi helva sericante dense vestitus, thorace dense subtilius punctato, latitudine sesqui breviore, a basi antrorsum angustato, lateribus rotundatis subtiliter marginatis, basi late bisinuata tenuiter marginata, angulis posticis rectis; elytris striis haud impressis subtiliter punctatis, interstitiis dense punctulatis; ore antennisque fusco-testaceis, pedibus flavo-testaceis. Long. ·24.

One specimen collected in Arizona by Dr. B. J. D. Irwin, U. S. A. Differs from the two preceding by the finer puncturing both of the thorax and elytra. The front is nearly smooth, the vertex sparsely punctured, and the occiput densely punctured. The antennæ are longer than the head and thorax, rather stout, feebly serrate, with the 3d joint as long as the 4th, but more slender. The body beneath is dark testaceous; the abdomen finely but not sparsely punctured.

species) the lateral margin of the prothorax becomes obsolete towards the apex, and the 3d joint of the antennæ is shorter than the 4th; in the second division (*C. sericea*) the side margin extends to the tip of the prothorax, and the 3d joint of the antennæ is equal to the 4th.

The species of *Mycetochares* form three divisions, as follows:—

1. Anterior coxæ separated by the prosternum; prothorax transverse, nearly as wide as the elytra, (*M. haldemani*, *fraterna*).

2. Anterior coxæ separated by the prosternum; prothorax narrower than the elytra, (*M. bicolor*, *foveata*, *tenuis*).

3. Anterior coxæ not separated by prosternum, cavities confluent, (*M. binotata*).

ISOMIRA Muls.

425. I. quadristriata. Nigro-picea, vel testaceo-picea, subnitida dense sericeo-pubescens, thorace latitudine duplo breviore, lateribus rotundatis, basi bisinuata tenuiter marginata, angulis posticis rectis, cum capite dense subtiliter punctato; elytris dense subtiliter punctatis, striis obsoletis, duabus internis pone medium distinctis; antennis fuscis corporis dimidio longioribus, tenuibus; pedibus ferrugineo-testaceis, femoribus sæpe infuscatis. Long. ·24—·26.

Cistela quadristriata Couper, Canadian Naturalist, Feb. 1865, p. 62.

Lake Superior, Canada, New York, Georgia, Missouri. A widely diffused and not uncommon species, having the upper surface nearly as finely punctured as *Cistela sericea*, from which it is at once distinguished by the more broadly triangular, subcultriform last joint of the maxillary palpi.

It is with some hesitation that I refer this species to *Isomira*, the outer side of the last joint of the maxillary palpi being in *I. antennata* twice as long as the apical side, while in our species the difference in length is not very great. I do not observe a complete uniformity in the form of the part in question in those genera of which I have examined several species, and therefore cannot consider the difference as sufficient to warrant me in proposing a new generic name.

In one specimen, from New York, the inner side of the last joint of the maxillary palpi is distinctly bisinuate, but I observe no other character, except that the head and thorax are black, and the elytra paler and more finely punctulate than in the other specimens; I have mentioned it in the List as *I. velutina.*

MYCETOCHARES Latr.

426. M. fraterna. Nigra nitida, tenuiter parce pubescens, thorace transverso, latitudine duplo breviore, lateribus valde rotundatis, disco remote subtiliter punctato; elytris thorace haud latioribus subtiliter punctatis, versus suturam obsolete bistriatis, macula subbasali rufo-testacea ornatis; subtus rufo-picea, ore antennis pedibusque rufo-testaceis, sæpe paulo infuscatis, coxis anticis prosterno separatis. Long. ·24—·26.

Cistela fraterna Say, J. Ac. Nat. Sc. Phila. III, 270; ed. Lec. II, 159.
Stigmatoma fraterna Lec. Class. Col. N. America, 244.

Middle States; under the bark of *Populus dilatata.* The thorax is vaguely impressed each side of the base, and more feebly at the middle; the pubescence is moderately long, though sparse and fine.

427. M. haldemani. Nigro-picea, nitida, brevissime parce pubescens, thorace transverso, convexo, latitudine duplo breviore, parce remote punctulato, lateribus rotundatis, ante basin transversim impresso; elytris thorace haud latioribus, subtiliter parce punctatis, versus suturam obsolete bistriatis, macula subbasali ornatis; subtus rufo-picea, ore antennis pedibusque ferrugineis, sæpe paulo infuscatis, coxis anticis prosterno separatis. Long. ·18.

Middle and Southern States. The thorax is more convex than the preceding, and the pubescence so short as to be almost invisible.

Cistela basillaris Say, Jour. Acad. Nat. Sci. Phila. III, 269, appears to be related to these species, but is described as having the elytra striate, and the thorax hardly punctured.

428. M. foveata. Elongata, piceo-nigra nitida, pube grisea erecta sat dense vestita, thorace latitudine paulo breviore antice et postice angustato, lateribus rotundatis, convexo parce fortiter punctato, postice utrinque profunde foveato, et ad medium breviter canaliculato, angulis posticis rectis; elytris thorace latioribus, fortiter seriatim punctatis, striis parum impressis, interstitiis subtiliter fere uniseriatim punctatis, macula humerali læte rufo-testacea ornatis; antennis fuscis basi testaceis, pedibus læte flavo-testaceis; coxis anticis prosterno separatis. Long. ·20—·25.

Western States; not rare. To the same division of the genus belong *M. bicolor*, a larger species with immaculate elytra, and *M. tenuis.* The elytra are striate and the pubescence erect, in which particulars, as well as by the smaller thorax, these species differ from those of the first division.

429. M. tenuis. Valde elongata, piceo-nigra nitida, pube erecta vestita, thorace parvo, latitudine vix breviore, paulo convexo, fortiter haud dense punctato, angulis posticis subrectis deplanatis, postice utrinque profunde foveato; elytris thorace latioribus, seriatim punctatis, striis vix impressis, interstitiis fere uniseriatim punctatis, gutta parva subhumerali rufo-testacea ornatis; antennis fuscis, basi ore pedibusque ferrugineis; coxis anticis prosterno separatis. Long. ·22.

Two specimens; Detroit, Michigan. The thorax is scarcely wider than the head, which is similarly punctured.

CTENIOPUS Solier.

430. C. murrayi. Elongatus fuscus nitidus pubescens, capite thoraceque subtiliter punctulatis, hoc latitudine sesqui breviore, a basi antrorsum angustato, lateribus antice valde rotundatis postice subsinuatis, ad medium vage impressis, basi subsinuata, tenuiter marginata, angulis posticis subacutis vix rotundatis; elytris thorace latioribus, punctatis, striis haud impressis, e punctis vix majoribus approximatis digestis. Long. ·40.

One specimen (female) given me by Mr. Andrew Murray, probably from Florida. I am not entirely satisfied with the reference of the species to the present genus. The tip of the mandibles is simple, slightly rounded, and not emarginate; the last joint of the maxillary palpi is elongate triangular, with the apical and basal sides equal, the outer lobe of the maxillæ is elongate with parallel sides; the antennæ are slender, about one-half the length of the body, with the 3d joint a little shorter than the 4th. The lateral margin of the prothorax reaches the tip; the anterior coxæ are separated by the prosternum. The tarsi are simple, not longer than the tibiæ, and the ungues have from 6–8 teeth; the posterior portion of the hind coxæ is slightly convex, and does not terminate in a sharp edge. The 6th ventral segment is slightly visible, and the 5th is marked with a transverse oval excavation near the tip. The epipleuræ extend nearly to the tip.

The family *Cistelidæ* seems to need a thorough revision, in order that by comparing the species from different countries the limits of the genera may be properly defined, and their systematic relations recognized.

STATIRA Latr.

431. S. subnitida. Picea vel nigro-picea, capite thoraceque alutaceo-rugosis, fere opacis, hoc latitudine longiore lateribus late rotundatis, apice truncato, angulis rotundatis, basi marginata, angulis posticis extrorsum prominulis; elytris thorace fere duplo latioribus, subtiliter reticulatis subnitidis, striis punctulatis, interstitiis alternis punctis paucis piliferis impressis. Long. ·30—·47.

Two specimens, collected by Mr. John Xántus, at Cape San Lucas, Lower California. The last joint of the antennæ is decidedly longer than the two preceding in the smaller specimen, and about equal to them in the larger one. The difference is not sufficient to be regarded as sexual, if I may judge from the other species in my collection, in which the last joint of the antennæ in the males is as long as the five preceding, and in the females about as long as the three preceding united. The first interval of the elytra has three punctures behind the middle, the third has six to eight along its whole length, and the fifth has five or six also along its whole length. This species seems quite distinct from any of those of Mexico described by Mäklin.*

HYPORHAGUS Thomson.

432. H. opaculus. Ovalis piceus subnitidus, capite thoraceque confertim punctatis, hoc latitudine breviore antrorsum angustato, apice bisinuato, angulis anticis distinctis, margine apicali lateribusque rufescentibus, lateribus fere rectis, angulis posticis rectis ; elytris striis punctatis, externis duplicatis, extrorsum subcostatis, interstitiis parce obsolete punctulatis. Long. ·21—·23.

Mas tarsis anticis articulis tribus paulo dilatatis, subtus spongiosis ; gula mox pone mentum fovea impressa, fasciculo parvo acuto pilorum gerente.

Two males, collected at Cape San Lucas, Lower California, by Mr. Xántus. This species resembles in sculpture the figure of *H. yucatanus* Thomson, Ann. Ent. Soc. Fr., 1860, pl. 3, f. 3, but the form of body and especially that of the thorax resembles more nearly *H. costulatus* Thoms., ibid. f. 12 ; the sexual characters mentioned above also exist in *H. punctulatus.* In one of the specimens the color is nearly uniform piceous ; the other is darker, with the prosternum, feet, and abdomen reddish piceous.

EUPLEURIDA Lec.

433. Eu. costata. Testacea, capite nigro-piceo polito, parce punctulato, longitudinaliter convexo, supra transversim deplanato ; thorace campanulato, polito parce punctulato, lateribus carinaque media incrassatis elevatis postice productis, basi profunde rotundatim biemarginata ; elytris fuscis macula elongata laterali apiceque testaceis, fortiter confertim punctatis, costa magna elevata margineque laterali incrassata lævibus ; sutura lævi subelevata ; antennis corporis dimidio vix longiore, articulo 3io 4to æquali, externis turbinatis, paulo crassioribus ; abdominis lateribus infuscatis, pedibus flavo-testaceis. Long. ·20.

A very singular insect, of which one specimen was collected in North Carolina, by Prof. Hentz ; recently Mr. Ulke found several specimens near Cresson, Pennsylvania, at the summit of the Alleghanies. It differs remarkably from the other genera not only by the firmer consistence of the tissues, and the peculiar sculpture, but by the simple antennæ and dilated broadly triangular last joint of the maxillary palpi.

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* Act. Finnl. Soc. Wissenschaften, 1863.

BACTROCERUS Lec.

434. B. concolor. Fuscus, pube pallidiore minus subtili vestitus, capite thoraceque granulato-punctatis, hoc campanulato, latitudine longiore, apice subito tubulatim constricto; elytris thorace latioribus fortiter sat dense punctatis, punctis hic inde transversim confluentibus, ore pedibus antennisque dilutioribus, his articulo 11mo præcedentibus quatuor æquali. Long. ·30—·48.

Cape San Lucas, Lower California, collected by Mr. Xántus. This insect resembles in appearance *Stereopalpus mellyi*, but is larger and rather less slender. It differs generically in the form of the last joint of the maxillary palpi, which is neither broadly securiform as in *Eurygenius*, nor elongate and cultriform as in *Stereopalpus*, but subtriangular, elongate, with the apical and basal sides nearly equal, and the inner angle very obtuse; the antennæ differ from those of the two genera named by the last joint being much elongated, as in *Statira*, in the two specimens before me equal in length to the four preceding united. The sculpture of the head and prothorax is peculiar, consisting of slightly elevated umbilicated granules. The eyes, as in *Stereopalpus*, are subtruncate and scarcely emarginate in front, and the claws scarcely dilated at base. A longer generic description is unnecessary, as the other characters are the same as in the two allied genera.

CORPHYRA Say.

435. C. canaliculata. Picea subnitida, tenuiter pubescens, capite parce punctulato, thorace flavo-testaceo, transverso, lateribus rotundatis, margine basali reflexo infuscato, disco-convexo parce punctulato linea dorsali impresso, foveaque utrinque vix distincto; elytris thorace latioribus, sat dense punctatis, punctis versum apicem paulo subtilioribus, apice vage testaceis; ore antennarum articulis duobus primis, pedibus anoque flavo-testaceis. Long. ·20.

One specimen, collected in Ohio, by Mr. Fay, and kindly communicated by Dr. S. Lewis. Differs remarkably from the other species known to me by the more strongly transverse thorax with a distinct dorsal channel. The pale apical margin of the elytra is distinct, but not well defined, fading insensibly into the piceous ground color.

SCRAPTIA Latr.

On examining the species of *Scraptia* in my collection, I find the differences in the maxillary palpi and hind tarsi are such as to indicate three genera, as follows: The last joint of the labial palpi in all three is very transverse, with the apical side longer than the others, and the prosternal sutures are not distinct.

Last joint of maxillary palpi triangular;	
Penultimate joint of all the tarsi lobed.	**Scraptia.**
Penultimate joint of hind tarsi not lobed.	**Allopoda.**
Last joint of maxillary palpi elongate, cultriform.	**Canifa.**

To the first genus belongs *Orchesia sericea* Mels. The antennæ are about two-thirds as long as the body, not very slender, with the 3d joint but slightly longer than the 2d, and the two united are not longer than the 4th. The last joint of the maxillary palpi is large, triangular, about one-half longer than wide, the outer side broadly curved, the apical and internal sides meeting at a right angle, which is quite considerably rounded, the inner or basal side about one-third shorter than the apical. The penultimate joint of all the tarsi is cordate, and somewhat lobed, and the first joint of the hind tarsi is twice as long as the others united in our species, and but little longer than the others united in the European *S. fusca.*

To *Allopoda* belongs *Scraptia lutea* Hald., which I have, by the confusion of types sent to me, erroneously considered (Proc. Acad. Nat. Sci. VII, 219) as the same with *S. pallipes* Mels. The antennæ are about half as long as the body, the 2d joint half as long as the 3d, which is not shorter than the 4th. The last joint of the maxillary palpi is about one-half longer than wide, subtriangular, with the internal angle more rounded than in the preceding genus, and the tip more acute. The penultimate joint of the front and middle tarsi is cordate, but that of the hind tarsi is slender, not at all dilated, and two-thirds the length of the preceding; the first joint of the hind tarsi is shorter than the other three united.

The third genus *Canifa* contains *Scraptia plagiata* Mels., *S. pusilla* Hald., and *S. pallipes* Mels. The antennæ are a little more than half the length of the body; the 2d and 3d joints are small, equal, and the 3d is as long as both united. The last joint of the maxillary palpi is cultriform, fully twice as long as its width, with the apical side a little shorter than the outer side, and twice as long as the internal side which becomes basal, and meets the apical side almost at right angles. The penultimate joint of all the tarsi is cordate and somewhat lobed, and the first joint of the hind tarsi is nearly twice as long as the others united.

Allopoda may be distinguished from *Anaspis* and its allies, which have similar maxillary palpi and hind tarsi, by the last joint of the labial palpi being transverse and securiform—the antennæ not being thickened externally—by the anterior trochantin being distinct, and by the different form of the hind coxæ, which do not conform to the ventral surface, but are raised from it.

TETRATOMA Fabr.

436. T. truncorum. Læte flavo-rufa nitida, capite nigro, punctato, thorace subæneo micante, profunde punctato, elytris violaceis profunde punctatis; antennis totis nigris, palpis piceo-rufis. Long. ·20—·27.

Southern, Middle and Western States, and Canada. Precisely resembles in form and sculpture the European *T. fungorum*, but differs by the antennæ being entirely black, while in that species the joints 1–7 are testaceous.

NOTHUS Oliv.

437. N. varians. Piceus vel nigro-piceus, cinereo-pubescens, capite thoraceque subtiliter punctatis, hoc flavo, vittis duabus nigris ornato, transverso, lateribus paulo rotundatis, angulis omnibus obtusis rotundatis; elytris confertim subtiliter rugose punctatis. Long. ·20—·32.

α. Antennis pedibusque piceis; mandibulis et ore subtus pallidis, palpis fuscis.

β. Antennarum basi ore pedibusque flavis.

Mas femoribus posticis curvatis, paulo incrassatis, tibiis posticis spina elongata ad dodrantem latere interno armatis.

New York, Illinois, Missouri. Of the form α I have two females; of β one male and one female.

PROTHALPIA Lec.

438. P. undata. Elongata, subtus picea, supra testacea nitida pube suberecta minus subtili vestita, capite fusco, punctato inter oculos transversim impresso, thorace latitudine sesqui latiore, semicirculari, confertim punctato, plaga media margineque laterali infuscatis, postice late breviter canaliculato et utrinque impresso, basi bisinuata et medio

emarginata; elytris thorace haud latioribus punctatis, lituris pluribus fuscis ornatis; antennarum basi palpis pedibusque fusco-testaceis. Long. ·27.

Lec. Class. Col. N. America, 252.

One specimen, from Louisiana, given me by Mr. Guex. The dark markings of the elytra are narrow spots, one of which commences at the scutellum and becoming very narrow runs along the suture, another commences at the humerus and runs obliquely for more than one-third the length: near its end and between it and the subsutural line is a small spot; the other spots form a transverse undulated band behind the middle, and a subapical blotch on each elytron.*

The genus is evidently allied to *Melandrya*, but the fissure of the anterior coxal cavities is narrower, and the trochantin smaller, though quite visible; the clypeal suture is less distinct. The maxillary palpi are moderate in length, the 2d and 3d joints not dilated, the 4th securiform, with the outer side not much longer than each of the others, which are nearly equal. The antennæ are moderately slender, with the 2d joint short, the 3d not much longer than the 4th: the tip of the last joint is testaceous. The lateral margin of the prothorax is acute behind, and entirely effaced before the middle, the base is sinuous, but not conspicuously lobed. The tarsi are about as long as the tibiæ, and the

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* The grouping of the genera of the tribe *Melandryini*, Class. Col. N. America, pp. 249–252, has been rendered somewhat imperfect by the progress of investigation; and the following table of groups and genera should be substituted:—

A. Anterior coxæ with a distinct exterior fissure;
  Anterior coxæ separated by the prosternum;
    Third joint of antennæ longer than the 4th. 1. Penthes.
    Third joint of antennæ equal to the 4th. 2. Synchroæ.
  Anterior coxæ contiguous;
    Frontal suture distinct, trochantin visible. 3. Melandryæ.
    Frontal suture not visible, trochantin not visible. 4. Serropalpi.
B. Anterior coxæ without exterior fissure; trochantin not visible;
  Anterior coxæ contiguous. 5. Dircææ.
  Anterior coxæ separated by the prosternum. 6. Orchesiæ.

The first two groups each contain but a single genus of easy recognition. The table of the genera of the third group, given on p. 251 of the anterior ones are dilated; the penultimate joint of all the tarsi is excavated and somewhat lobed beneath; the ungues are dilated at base and obtusely toothed.

The insect from its general appearance and coloration resembles *Marolia,* but the form of the maxillary palpi, and the other characters are quite different.

Classification, needs no alteration, except to introduce *Nothus;* the genera of the following groups may be distinguished as follows:—

Group IV. SERROPALPI.

Middle coxæ contiguous.	XYLITA.
Middle coxæ separated by the mesosternum;	
Max. palpi with the 4th joint wider than the 2d and 3d;	
Pubescence prostrate;	
Antennæ thick, outer joints transverse, last joint of maxillary palpi securiform.	CAREBARA.
Anten. slender, last joint of max. palpi long, cultriform.	SPILOTUS.
Pubescence erect, antennæ slender, last joint of maxillary palpi securiform.	ZILORA.
Max. palpi serrate, 2d and 3d joints as wide as the 4th;	
3d joint of hind tarsi shorter than the 2d, emarginate;	
Last joint of maxillary palpi long, cultriform;	
Thorax elongate, lateral margin effaced in front, obsolete behind.	HYPULUS.
Thorax quadrate, lateral margin distinct behind, effaced in front.	MAROLIA.
2d and 3d joints of hind tarsi equal, not emarginate;	
Max. palpi serriform, last joint elongate securiform.	SERROPALPUS.
Max. palpi not serrate, joints 2–4 equal in width, 4th elongate.	ENCHODES.

Group V. DIRCÆÆ.

Maxillary palpi with the last joint cultriform, terminal spurs of tarsi moderate.	DIRCÆA.
Maxillary palpi with the last joint securiform;	
Spurs of middle tibiæ very unequal.	ANISOXYA.
Spurs of middle tibiæ small, 2d joint of antennæ shorter than the 3d, anterior tarsi not dilated.	SYMPHORA.

Group VI. ORCHESIÆ.

Spurs of hind tibiæ small, hind coxæ not oblique.	EUSTROPHUS.
Spurs of hind tibiæ moderate, hind coxæ oblique.	HALLOMENUS.
Spurs of hind tibiæ large, the inner one very long, serrate;	
Second joint of antennæ moderate.	ORCHESIA.
Second joint of antennæ thick, antennæ strongly clavate.	MICROSCAPHA.

CAREBARA Lec.

439. C. longula. Valde elongata, depressa, picea, æqualiter dense subtiliter punctata, tenuiter pubescens, capite convexo, thorace quadrato, latitudine haud breviore, angulis rotundatis, basi subtiliter marginata, ante basin linea dorsali brevi impresso, et utrinque obsolete foveato; elytris thorace haud latioribus; subtus rufo-picea, antennarum basi palpisque dilutioribus. Long. ·25.

Lec. Class. Col. N. America, 251.

Middle States; rare. The head is convex, without frontal suture; the antennæ are stout, shorter than the head and thorax, the 2d joint more than half as long as the 3d, which is a little longer than the 4th, and slightly triangular; the 4th is triangular, and as wide as long; the 5th–10th are transverse, the 11th oval, as wide as the 10th, and twice as long. The 2d and 3d joints of the maxillary palpi are equal and triangular, the 4th is twice as wide, elongate securiform, with the apical and external sides equal, and each twice as long as the inner or basal side. The lateral margin of the prothorax extends from the base to the apex. The elytra are a little shorter than the abdomen, leaving the pygidium exposed. The tarsi are imperfect in my specimens, but the hind pair is a little shorter than the tibiæ, with the 1st joint longer than the others united, the 2d longer than the following two united, and the 3d small, slightly lobed.

ZILORA Muls.

440. Z. hispida. Dilute fusco-castanea, pube erecta vestita, capite confertim fortiter punctato, inter oculos vage transversim impresso, thorace latitudine breviore, apice truncato, lateribus valde rotundatis, basi late rotundata subtiliter marginata, angulis posticis subrectis haud rotundatis, confertim punctato, postice utrinque profunde et late impresso, ante scutellum fovea parva transversa notato; elytris thorace confertim punctatis, obsolete sulcatis; antennis ore pedibusque dilutioribus. Long. ·26.

One specimen, found in New Hampshire by Dr. T. W. Harris. Resembles the figure of the European *Z. ferruginea*, (DuVal, Gen. Col. Europe, III, pl. 87, f. 432), but the thorax is wider, more rounded on the sides, and less narrowed in front.

ENCHODES Lec.

Corpus valde elongatum, subcuneiforme, subdepressum breviter dense pubescens. Caput rotundatum convexum, oculis transversis antice sinu-

atis; sutura frontali nulla. Antennæ filiformes, corporis dimidio breviores, articulo 3io præcedente duplo longiore, 4to æquali, 11mo præcedente vix longiore apice acuto. Palpi maxillares compressi haud serrati, articulo 2ndo elongato triangulari, 3io quadrato, 4to elongato, apice rotundato. Prothorax antrorsum angustatus, apice subemarginato, lateribus rotundatis, margine laterali versus basin distincto, antice obliterato. Elytra thorace haud latiora postice sensim attenuata, haud striata. Pedes validiusculi; coxæ anticæ contiguæ, fissura externa brevi distincta; intermediæ separatæ, tibiæ calcaribus elongatis; tarsi antici dilatati, intermedii tibiis longiores, articulo 1mo sequentibus 3 æquali, postici tibiis haud longiores, articulo 1mo sequentibus æquali, 3io præcedente plus duplo breviore; penultimo omnium supra excavato, infra breviter lobato.

A very distinct genus, containing one species of large size, very finely punctulate, and densely clothed with short cinereous pubescence. The body is less convex than in *Serropalpus* and *Dircæa*.

441. E. sericea. Valde elongata infra fusco-ferruginea, supra fusca undique pube brevi dense vestita, subtiliter dense punctulata, thorace latitudine breviore, antrorsum angustato, apice subemarginato, lateribus rotundatis, basi bisinuata subtiliter marginata, angulis posticis rectis, ad basin utrinque late triangulariter impresso; elytris thorace haud latioribus, postice sensim attenuatis. Long. ·50—·58.

Dircæa sericea HALD. Jour. Acad. Nat. Sci. Phila. 2d ser. I, 98.
Phloiotrya sericea LEC. Class. Col. N. America, 251.

Middle and Western States; rare.

DIRCÆA FABR.

442. D. concolor. Valde elongata, fusca, undique subtiliter dense rugose punctulata, pube brevi helva sericans, thorace latitudine paulo longiore antrorsum sensim angustato, apice valde rotundato, basi vix bisinuata; antennarum articulis externis crassatie haud longioribus, basi testaceis, tibiis tarsisque flavo-testaceis. Long. ·25.

One specimen, from York County, Pennsylvania, given me by Dr. Melsheimer. Differs from *D. liturata* Lec. (*Serr. 4-maculatus*|| Say) by the absence of spots, the finer and denser punctuation, the more sericeous pubescence, and the shorter and stouter antennæ, the joints beyond the 4th being not longer than wide. The thorax is marked with a vague transverse impression just in front of the middle.

D. decolorata Randall, is perhaps *Xylita lævigata*, but the reference must be considered somewhat doubtful, and the types are destroyed.

ANISOXYA Muls.

443. A. glaucula. Elongata, antice breviter, postice longius attenuata, fusca transversim subtiliter aciculata, et pube subtili sericans, thorace convexo, fere semicirculari, basi vix bisinuata, haud marginata; elytris a basi sensim angustatis; corpore subtus antennis pedibusque fusco-testaceis. Long. ·14.

Pennsylvania; rare. The genus *Anisoxya* is easily distinguished by the spurs of the middle tibiæ being larger than those of the hind tibiæ, and unequal; the larger of the two is nearly one-half the length of the first tarsal joint. The antennæ are scarcely longer than the head and thorax, with the 3d joint not longer than the 2d, 4th–10th equal in length to the 3d, nearly square, 11th one-half longer, oval. The sculpture is peculiar, consisting of fine impressed lines having a transverse direction and connected together, producing a somewhat squamous appearance.

I perceive no trace of the two posterior oblique impressions mentioned in the description of the European species.

SYMPHORA Lec.

Corpus elongatum, utrinque æqualiter rotundatum, modice convexum alatum, punctatum, pubescens. Caput convexum, vix deflexum pone oculos haud angustatum, sutura frontali distincta. Antennæ fere filiformes, articulo 2ndo brevi, 3io plus duplo longiore, sequentibus subæqualibus, externis crassitie longioribus, 11mo haud longiore, apice subacuto. Palpi maxillares articulis 2ndo et 3io brevibus, 4to dilatato, latitudine paulo longiore, subtriangulari, latere externo curvato, apicali (interno) recto paulo breviore, basali sesqui breviore, angulo interno rotundato. Oculi mediocres, transversi, antice emarginati. Prothorax capite latiore, transverso, trapezoideo, apice late truncato, angulis apice rotundatis, lateribus parum rotundatis, margine antice obliterata, basi late sinuata, subtiliter marginata, angulis posticis apice subrotundatis. Prosternum breve, haud excavatum, suturis obliteratis. Pedes elongati, tenues; coxæ anticæ contiguæ, acetabulis fissura externa minuta; coxæ intermediæ separatæ; tibiæ calcaribus parvis acutis, æqualibus; tarsi articulo penultimo vix lobato, antici tibiis brevioribus, haud dilatati, intermedii et postici tibiis vix brevioribus, illi articulo 1mo sequentibus æquali, postici multo longiore, unguiculis parvis basi paulo dilatatis.

A genus containing two small species, apparently allied to the European *Carida*, but differing by the emarginate eyes, and slender front tarsi. The characters as above detailed agree with

those of *Dryala* Muls. (Col. France, Barbipalpes, 58,) but the prothorax is not bifoveate at base, and the eyes are less emarginate. The genus *Dryala* has not been adopted, because the type of it, *Hallomenus fuscus*, on examination by Schaum, Redtenbacher, and DuVal, was found to have the anterior coxæ separated by the prosternum, as in the other species of *Hallomenus*. The anterior coxæ, in the two species described below, are prominent, conical, and contiguous, their cavities have a very minute external fissure, and the lateral sutures of the prosternum are obliterated, in which respect it agrees with the genera of the tribe *Scraptiini*. The characters are therefore anomalous, and I am not certain that I have assigned to the genus the best position.

In the Classification of North American Coleoptera I incorrectly referred these two species to *Trotomma*, a European genus allied to *Scraptia*, and like it having the head strongly constricted behind the eyes forming a small neck, which is received into the prothorax.

444. S. flavicollis. Nigro-picea nitida, fortiter punctata, subtiliter pubescens, capite, thorace, antennis pedibusque ferrugineis; thorace transverso, a basi antrorsum angustato, lateribus late rotundatis, apice truncato, angulis anticis rotundatis, posticis vix rotundatis disco postice utrinque vage oblique impresso, basi subsinuata vix subtiliter marginata; elytris thorace paulo latioribus. Long. ·13.

Scraptia flavicollis Hald. Jour. Acad. Nat. Sci. Phila. 2d ser. I, 100.

Middle, Southern, and Western States; rare.

445. S. rugosa. Fusco-picea subnitida, dense punctata, pubescens, thorace transverso, a basi antrorsum angustato, lateribus late rotundatis, apice truncato, angulis anticis rotundatis, posticis subrotundatis disco postice utrinque subimpresso, basi bisinuata subtiliter licet distincte marginata; elytris thorace vix latioribus, humeris dilutioribus; ore antennis pedibusque fusco-testaceis. Long. ·11—·13.

Scraptia rugosa Hald. Jour. Acad. Nat. Sci. Phila. 2d ser. I, 200.

Middle and Western States. Differs from the preceding by the less convex and more densely punctured thorax, and the less shining lustre, as well as by the uniform color. In the male the posterior margin of the 2d, 3d, and 4th ventral segments is membranous.

HALLOMENUS Panzer.

446. H. punctulatus. Subtus fusco-testaceus, supra fuscus, subtiliter confertissime punctulatus, pubescens, thorace lateribus vittaque dorsali fusco-testaceo; elytris striis 4 vel 5 internis fere obsoletis, basi late indeterminate fusco-testaceis. Long. ·22.

One specimen, Quebec, Canada; Mr. Couper. Of the same form as *H. scapularis* Mels., but at once distinguished by the much finer and denser punctuation, and by the obsolete striæ of the elytra, which are wanting in that species.

This species agrees with the description of *H. basalis* Mann., Bull. Mosc. 1853, 267, except that the elytra are feebly striate.

Types of *H. scapularis* Mels., and *Mycetochares ruficornis* Mels., for which I am indebted to the author, show no differences: *H. luridus* is founded on paler colored specimens, which, as surmised by Mr. Haldeman, on comparison, have proved to belong to the same species.

447. H. debilis. Testaceus, subtilius dense punctulatus, pubescens, capite fusco, elytris sutura anguste, lateribusque ad medium paulo infuscatis. Long. ·13.

Two specimens, Illinois; Mr. B. D. Walsh. Differs from *H. scapularis* by its much smaller size, and more dense and somewhat finer punctuation. Except in the characters mentioned the two species here described agree with *H. scapularis.*

EUSTROPHUS Lec.

448. Eu. confinis. Ovalis convexus, utrinque æqualiter rotundatim attenuatus, niger, dense subtiliter griseo-pubescens, thorace confertim subtiliter punctato, basi trisinuata, tenuiter marginata, lobo medio late rotundato; elytris punctis approximatis striatim digestis, interstitiis dense punctulatis; subtus helvo-pubescens, tarsis piceis, antennarum basi et apice palpisque piceo-rufis. Long. ·24—·30.

Canada, Lake Superior, and Western States. Differs from *Eu. bicolor* by the body not being more attenuated behind, by the thorax being much more punctured, by the punctures of the elytral striæ being smaller, and by the legs being black; it differs also from *Eu. indistinctus* by the same characters, except that of form, which is nearly the same in the two species.

MICROSCAPHA Lec.

Corpus parvum ovale, supra arcuatum, convexum, postice subito magis acute angustatum. Caput parvum deflexum, sutura frontali distincta;

oculi distantes, transversi, antice emarginati. Antennæ 11-articulatæ, articulo 1mo oblongo, 2ndo crasso, haud breviore, 3–7 parvis, sensim crassioribus, 8vo trapezoideo, longiore et crassiore 9no et 10mo magnis latioribus, crassitie vix brevioribus, 11mo ovali majore, ultra medium sinuatim angustato, tribus ultimis conjunctis præcedentibus 2–7 vix brevioribus. Palpi maxillares articulo 1mo parvo, 2ndo elongato triangulari, 3io sensim latiore trapezoideo, 4to ovali oblique truncato, præcedentibus conjunctis paulo longiore. Prothorax capite plus duplo latior, transversus, a basi antice angustatus, apice late rotundato, basi subrotundata et late bisinuata immarginata, lateribus subrotundatis subtiliter marginatis. Scutellum minutum triangulari. Elytra estriata, postice subito oblique attenuata, epipleuræ angustæ, postice abbreviatæ. Prosternum ante coxas brevissimum, inter coxas lineare; coxæ anticæ conicæ, angustissime separatæ, trochantino nullo. Coxæ intermediæ metasterno angusto prominulo separatæ. Metasternum magnum, episternis triangularibus. Coxæ posticæ planæ laminatæ, segmento 1mo ventrali majores, fere contiguæ. Pedes antici mediocres, tibiis femoribus brevioribus, calcaribus minutis, tarsis tibiis longioribus, paulo dilatatis, articulo 4to bilobato; intermedii mediocres, tibiis sicut in anticas, tarsis longioribus, articulo 1mo sequentes tres æquante, 4to bilobato; postici elongati, femoribus compressis, ad elytra extensis, tibiis brevibus triangularibus, femoribus plus duplo brevioribus, calcaribus tibiis longioribus, pectinatis, tarsis articulo 1mo femoribus haud breviore, calcaribus tertia parte longiore, sequentibus conjunctis sesqui longiore, 3io haud lobato, præcedente sesqui breviore; 4to 2ndo vix longiore, unguiculis parvis simplicibus.

Allied to *Orchesia*, but differs totally in the form of the antennæ and maxillary palpi.

449. M. clavicornis. Ovalis convexa, nigra nitida, fere impunctata, tenuiter griseo-pubescens; capite, antennarum basi, pedibusque anterioribus testaceis, antennarum clava, abdomine, pedibusque posticis plus minusve fuscis. Long. ·09.

One specimen from Georgia, and one from Illinois. In the former the abdomen is reddish-testaceous, and the feet are uniform in color; in the latter, the abdomen is dark brown and the hind legs fuscous.

MACROSIAGON Hentz.

450. M. flavipennis. Atra opaca, dense punctulata, capite elongato fortiter punctato, vertice compresso antice concavo apice subemarginato, thorace latitudine vix longiore a basi antrorsum valde angustato, ad basin utrinque late impresso, ante scutellum breviter cornuto, lobo postico apice rotundato; elytris pallidis, haud dense punctatis, pone basin oblique profunde impressis, apice valde divaricatis, acutissimis; antennis flavo-testaceis. Long. ·34—·40.

Three males; New York and Missouri. Quite different from *M. dimidiata*, in form and sculpture. The scutellar lobe is rounded at tip, and suddenly elevated near the tip into a short horn, which is truncate or feebly emarginate at its apex.*

RHIPIPHORUS Fabr.

451. R. linearis. Elongatus, niger nitidus, capite thorace paulo latiore lævi convexo, thorace latitudine plus sesqui longiore, postice sensim paulo ampliato, lobo postico elongato, subacuto plano, disco haud dense punctato, ad basin utrinque longius vage impresso; elytris punctatis, longitudinaliter impressis, apice divergentibus acutis; tarsis antennisque fuscis, his basi testaceis. Long. ·15.

One male, from Kentucky, given me by Mr. J. Ph. Wild.

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* The following forms were received too late for insertion in the List:—

M. abdominalis. Atra confertim punctata, subnitida, capite sat dense punctato, vertice paulo concavo apice subemarginato, thorace latitudine paulo longiore, lobo postico apice rotundato, disco ante scutellum elevato, fere cornuto, cornu apice rotundato; elytris fere a basi divaricatis, sensim attenuatis, apice acutis, fortius punctatis pallidis, margine basali dimidioque postico nigris, abdomine sanguineo; antennis piceis, basi pallidioribus. Long. ·30—·40.

Middle States. I owe to Mr. J. H. B. Bland the privilege of examining six females of this species. It differs from *M. flavipennis* chiefly in color; the posterior half of each elytron is black, but the line of demarcation is an angle directed forwards, so that at the suture and side margin the pale color extends farther than at the middle. It is *Rh. abdominalis* Dej. Cat.

M. marginalis. Atra confertim punctata, subnitida, capite parce subtilius punctato, vertice convexo haud emarginato, thorace latitudine haud sesqui longiore, lobo postico apice emarginato, ante scutellum modice elevato; elytris pone medium divaricatis, parce punctatis, sensim attenuatis, apice acutis, pallidis margine basali sutura, limbo externo pone medium, apiceque nigris; antennis testaceis. Long. ·36.

One male specimen, from Philadelphia, in the collection of Mr. Bland. This species seems to bear the same relation to *M. dimidiata* that *M. flavipennis* does to the preceding. It differs merely in color; the antennæ are testaceous, and the elytra margined with black behind the middle, and at the tip, the black of the latter extending for about one-fifth of the length.

Gerstæcker has described (Mon. Rhipiphoridum, 21) both sexes of *M. dimidiata* as having the antennæ black with the base testaceous, and it is solely in deference to this observation that I have described the two species in this note. Otherwise, I would be tempted to regard *M. abdominalis* as the female of *M. flavipennis*, and *M. marginalis* as the male of *M. dimidiata.*

Differs from *R. limbatus* by the smaller size, different color, and more finely punctured thorax; the posterior lobe is less rounded at tip than in that species.

MELOE Linn.

452. M. montanus. Nigro-violaceus, capite thoraceque fortiter punctatis, hoc capite angustiore, latitudine longiore, postice angustato, basi emarginato; elytris fortiter intricato-rugosis; abdomine supra confertim subtilius rugoso; antennis articulis intermediis (feminæ) paulo latioribus. Long. ·55—·86.

One female from Oregon, and another from Montana. This species is closely allied to *M. rugipennis*, and, as in that species, the thorax is destitute of impressions; but the punctures of the head and thorax are more numerous, and less unequally distributed, and the dorsal segments of the abdomen are more finely rugose.

The male, when discovered, will be found to have the 5th, 6th, and 7th joints of the antennæ dilated, as in *M. rugipennis;* the 8th and 9th joints of the female are about as long as their width, the 10th is one-third longer.

453. M. tinctus. Nigro-violaceus, capite thoraceque fortiter punctatis, hoc capite angustiore, latitudine longiore, postice paulo angustato, canaliculato, margine postico depresso, basi emarginato; elytris fortiter intricato-rugosis; abdomine supra subtilissime rugoso; antennis articulis intermediis (feminæ) paulo latioribus. Long. ·44—·50.

Three females from Nebraska, near the Rocky Mountains. Differs from the preceding by the head and thorax being still more coarsely punctured, the latter channelled, with the basal margin strongly depressed, and the dorsal segments of the abdomen much more finely rugose. The 8th, 9th, and 10th joints of the antennæ are nearly equal in size.

M. afer differs from this species by the color being black, without any bluish tint, and by the dorsal segments being strongly rugose, as in *M. montanus.*

454. M. carbonaceus. Ater, subnitidus, capite thoraceque rude punctatis, hoc capite angustiore, latitudine parum longiore, ovato, postice angustato, pone medium canaliculato, ad basin emarginato; elytris fortiter intricato-rugosis, abdomine supra rugose punctato; antennis articulis intermediis (feminæ) paulo latioribus. Long. ·64—·74.

Two females from Nebraska, near the Rocky Mountains. Differs from the preceding by the head and thorax being more coarsely punctured, the latter more narrowed behind, with the basal margin not depressed; the rugosities of the elytra are more coarse, and those of the dorsal segments more punctiform. The joints 8–10 of the antennæ increase slightly in length, but the difference is not very obvious.

NOMASPIS Lec.

Meloe parvulus Hald. differs from *Meloe* by the elytra not being in any way imbricate; the scutellum is distinct, triangular, rounded behind, and projects between the elytra, which are connate for about one-third of their length, and then gradually diverge, as in *Meloe*. In *Henous* the elytra are connate almost to the tips. This genus is, therefore, intermediate between the two just named, but more nearly allied to the latter.

455. N. parvulus. Ater subopacus, capite thoraceque fortiter punctatis, hoc transverso, capite paulo angustiore, postice vix angustato, basi fere truncato, angulis anticis valde rotundatis, disco canaliculato, ante scutellum vage impresso; elytris confertim scabris, ad quadrantem connatis, dein divergentibus apice singulatim rotundatis; abdomine supra dense subtilius rugose punctato; antennis capite thoraceque longioribus, articulo 2ndo 4toque æqualibus, 3io longiore. Long. ·40—·58.

Meloe parvus‖ Hald. Stansbury's Expedition to Great Salt Lake, 377; Lec. Proc. Acad. Nat. Sc. Phila. VI, 329.

Meloe parvulus Hald. Proc. Acad. Nat. Sc. Phila. VI, 404.

Kansas, Colorado, and New Mexico. The antennæ are nearly filiform, but not very slender, the joints 4–10 being equal, and the 11th a little longer. The base of the thorax is finely margined, and scarcely emarginate, the disk near the hind angles is convex, and the angles themselves nearly rectangular, though not prominent; the dorsal channel is distinct, and wider towards the base, and marked with a distinct impressed median line.

MACROBASIS Lec.

456. M. virgulata. Nigra dense cinereo-pubescens, scutello, elytrorum sutura margine vittaque dorsali angusta pallide pubescentibus; antennis nigris, pedibus ferrugineis, artubus fuscis. Long. ·34—·42.

Mas antennarum articulo 1mo sequentibus 4 haud breviore, ultra medium antice sinuata, 2ndo minuto, 3io sesqui longiore, 4to præcedentibus duobus vix longiore.

Femina antennarum articulo 1mo sequentibus duobus vix longiore, extrorsum sensim incrassato, 2ndo–4to sensim paulo longioribus.

Cape San Lucas; collected by Mr. Xántus. A very distinct species, not needing further description to enable it to be recognized.

EPICAUTA Redt.

457. E. pedalis. Nigra minus dense cinereo-pubescens, capite punctato, thorace capite angustiore, latitudine longiore, sat dense punctato, canaliculato; elytris confertim subtilius punctatis; antennis nigris articulo 3io sequentibus duobus vix breviore, 2ndo brevi; pedibus ferrugineis, artubus fuscis. Long. ·38.

Three males collected at Cape San Lucas, Lower California, by Mr. Xántus. The 3d, 4th, and 5th joints of the antennæ are thicker than the outer ones, which diminish gradually in width, as in the male of *E. morio.*

458. E. convolvuli. Atra opaca, confertissime punctata, breviter pubescens, capite sat dense punctato, pone oculos læte rufo, et subtiliter canaliculato; thorace capite angustiore, latitudine sesqui longiore, linea dorsali tenui impressa; elytris elongatis, thorace sesqui latioribus; antennis filiformibus, articulo 3io præcedente plus duplo, sequente autem sesqui longiore. Long. ·30—·48.

Mas capite opaco, subtiliter granulato, punctis haud profundis.

Femina capite nitido, profunde haud dense punctato.

Variat thorace dense cinereo-pubescente, elytris vel cinereo-pubescentibus, vel atris sutura margine vittaque abbreviata cinereo-pubescentibus; capite nonnunquam toto nigro.

Cantharis atrata, var. *convolvuli* Mels. Pr. Acad. N. Sc. Phila. III, 53.
Lytta convolvuli Lec. ibid. VI, 339.

Pennsylvania to Texas. The difference in sculpture of the head might readily cause the two sexes to be regarded as different species. It differs essentially from *E. pennsylvanica* by the head being less densely punctured than the thorax, and by both being more strongly punctured than the elytra.

459. E. pardalis. Nigra, cinereo-pubescens, maculis rotundatis glabris nitidis lævibus confluentibus adspersa, interstitiis angustis punctatis, lineis irregularibus undatis præcipue transversis formantibus; capite thoraceque obsolete canaliculatis. Long. ·40—·53.

New Mexico and Arizona; General Pope and Dr. Irwin, U. S. A. This form is allied to *E. maculata,* but differs by the denuded spots being much larger and so confluent as to leave a few intervening narrow irregular lines clothed with gray hair; by the naked surface being smoother and less opaque on the elytra, and really polished on the head and thorax; by the head and thorax being less distinctly channelled. The antennæ are rather shorter, and slightly less slender.

I have seen no males belonging to this form, and but one of *Lytta conspersa* Lec.; but have observed in the typical specimens of *E. maculata* that the denuded spots are much larger in the females than in the males, and therefore conclude that the differences being of a comparative nature, the present species, as well as the one just named, should be regarded as races of *E. maculata.*

460. E. sericans. Nigra, pube cinerea minus subtili dense vestita, capite thoraceque sat dense, elytris densius punctatis, thorace campanulato, latitudine parum longiore, canaliculato, basi marginata; antennis nigris, capite thoraceque haud longioribus, articulis externis arcte applicatis. Long. ·30—·43.

Kansas, New Mexico, and Texas; abundant. Allied to *E. ferruginea*, but the pubescence is much coarser, and cinereous instead of fulvous; and the thorax is less elongate. Otherwise but little difference is observed.

461. E. pruinosa. Nigra opaca, pube brevi subtili minus dense vestita, capite thoraceque subtiliter confertim punctatis, hoc campanulato, latitudine haud longiore, subtiliter canaliculato; elytris thorace sesqui latioribus subtilissime scabro-punctatis; antennis nigris filiformibus, capite thoraceque vix longioribus, articulis externis arcte applicatis. Long. ·30—·44.

Colorado Territory; three specimens kindly given me by Mr. Benj. D. Walsh. This species is allied to *E. ferruginea*, and *sericans*, but differs by the pubescence being very fine, and not dense, giving a leaden lustre to the surface. I can find no sexual differences in the specimens.

462. E. callosa. Nigra subnitida, pube læte fulva dense vestita, capite thoraceque confertim punctatis, hoc campanulato, latitudine paulo longiore, canaliculato, callo utrinque ovali nitido lævi ornato; elytris thorace sesqui latioribus, dense subtiliter rugose punctatis; antennis nigris capite thoraceque paulo longioribus, filiformibus, articulis externis arcte applicatis. Long. .37—·44.

Texas, Mr. A. Sallé; Nebraska, Mr. Ulke. There are five specimens before me, in which I can detect no sexual differences. This species is more slender than *E. sericans* and *pruinosa*, being of the same form and color as *E. ferruginea*, from which it differs by the smooth callus each side of the thorax, midway between the apex and base, and equally distant from the side and the medial line.

PYROTA Lec.

463. P. terminata. Nigra, capite nitido parce punctato, macula magna rhomboidali luteo punctis paucis nigris notato, thorace latitudine longiore, nitido punctis paucis notato, pone apicem vage transversim impresso, ante scutellum late foveato, luteo macula discoidali utrinque guttisque duabus parvis in lateribus ipsis sitis nigris, scutello nigro; elytris luteis subtiliter dense rugosis subopacis, macula ovali ad basin prope suturam, macula latissima pone medium apiceque nigris; subtus tota nigra. Long. ·74.

One female from Kansas, near the Rocky Mountains; Mr. Walsh informs me that he has a similar one from Colorado Territory. Allied to *P. engelmanni*, but differs by the color of the head, by the thorax being less elongate, having more numerous impressed punctures, and by the position of the lateral small spots, both of which are on the inflexed portion, near the middle, the inner or upper one being more anterior, and the outer or lower one being on a transverse line with the discoidal spot; in *P. engelmanni* the outer one is anterior to the discoidal spot, and the inner one is situated on the apical margin. The scutellum is black, while in *P. engelmanni* it is in whole or in part yellow; the elytra have but one sub-basal spot on each side, near the suture; the fasciform spot extends from the second fifth to the fourth fifth of the elytra (attaining as in *P. engelmanni* neither the side margin nor the suture), and the apical black margin is narrower.

The species of *Pyrota* in my collection may be distinguished readily by the following synopsis:—

- Elytra banded with black;
  - Apex of elytra black;
    - Legs spotted with yellow and black. MYLABRINA.
    - Legs entirely black;
      - Basal spots double, sometimes confluent. ENGELMANNI.
      - Basal spot single, near the suture. TERMINATA.
  - Apex of elytra yellow; legs spotted. POSTICA.
- Elytra striped; legs spotted;
  - Vertex deeply channelled; elytra with a broad stripe and subbasal spot. VITTIGERA.
  - Vertex not channelled;
    - Elytra with the entire limb, an abbreviated basal vitta and subapical spot pale. INSULATA.
    - Elytra with a discoidal and common sutural stripe black. GERMARI.
    - Elytra with a discoidal stripe and subbasal spot black. DISCOIDEA.
    - Elytra black, with the entire limb yellow. LIMBALIS.

P. afzeliana is unknown to me, but seems to differ from *P. vittigera* by the thorax having but two black spots, and by the head having two distant occipital spots instead of two confluent frontal ones, and by the vitta of the elytra being more sinuate, and shorter, and by the apex being black.

464. P. postica. Supra lutea nitida, capite parce subtiliter punctato, thorace latitudine longiore punctis paucis impresso, gutta utrinque discoidali nigra alteraque in latere ipso signato; elytris subtiliter rugosis, maculis utrinque duabus ovalibus ad basin fasciaque lata nigra pone medium ad marginem haud extensa, et ad suturam vix interrupta; subtus nigro-luteoque variegata, pedibus luteis, genubus, tibiarum apice, tarsisque nigris; antennis nigris articulo 1mo luteo. Long. ·70—·92.

Lytta mylabrina β Lec. Jour. Acad. Nat. Sc. Phila. 2d ser. IV, 22.

Texas and New Mexico; two females. This species agrees with *P. mylabrina* in form and sculpture, but differs by the arrangement of the black spots of the elytra.

465. P. limbalis. Testaceo-rufa, capite thoraceque nitidis punctis paucis impressis, hoc latitudine longiore, macula utrinque discoidali ovali nigra pone medium signato; elytris dense rugose punctulatis parce puberulis, subnitidis, atris, limbo omni scutelloque rufo-testaceo; meso et metapleuris, coxarum macula, genubus, tibiis ultra medium, tarsis, ore antennisque nigris. Long. ·30—·42.

A pretty little species, from the neighborhood of Norfolk, Va.; for which I am indebted to Mr. Ulke and Mr. Akhurst. The palpi are alike in the four specimens in my collection.

POMPHOPOEA Lec.

466. P. unguicularis. Valde elongata, olivaceo-ænea, sæpe cyanescens, sub-opaca, capite thoraceque pilis pallidis mollis erectis præcipue ad latera vestitis, parce subtiliter punctatis, hoc latitudine longiore campanulato, lateribus ad apicem subito rotundatis dein subsinuatis; elytris confertim rugose punctatis; antennis nigris, pedibus rufo-testaceis, coxis trochanteribus genubusque cyaneis, tarsorum articulo ultimo ad apicem, unguiculisque nigris, tibiis intermediis curvatis. Long. ·70—·78.

Mas tibiis anticis fortiter incurvatis, supra medium compressis et introrsum late concavis; abdominis articulo ventrali penultimo versus apicem paulo incrassato, apice late emarginato, ultimo profunde excavato, usque ad medium acute emarginato.

Femina tibiis anticis rectis; abdominis segmentis ventralibus haud emarginatis.

One pair; Illinois. Closely allied to *P. sayi*, but differs b the tibiæ not being blue at base and tip, and by the tarsi being yellow, with only the extremity of the last joint and the claws blackish. The under surface in both is clothed with long soft erect whitish hairs.

The male of *P. sayi* has the last ventral segment less deeply excavated, and more widely bilobed, and the anterior tibiæ not so much compressed above the middle, and much less concave on the inner face.

The species of *Pomphopœa* in my collection may be recognized by the following table:—

Elytra glabrous;	
Knees, tibiæ, and tarsi blue black (surface less opaque).	POLITA.
Knees, apex and tip of tibiæ, and all of the tarsi blue black.	SAYI.
Knees blue black, tip of last joint of tarsi, and claws black.	UNGUICULARIS.
Legs rufous, trochanters and tarsi with a bluish lustre	TEXANA.
Elytra pubescent; head and thorax densely pubescent;	
Elytra with a few short scattered hairs.	ÆNEA.
Elytra densely pubescent, and punctured.	TARSALIS.
More slender; elytra rugosely punctured and less densely pubescent.	FILIFORMIS.

The species with pubescent elytra are closely allied, and agree in sexual characters; the penultimate ventral segment of the male is very slightly emarginate, and the last joint is very deeply and acutely emarginate, but not excavated. The anterior tibiæ are straight in both sexes. The knees, both extremities of the tibiæ and all the tarsi are blue black in *P. tarsalis*, but in *P. ænea* and *filiformis* they are merely blackish, and sometimes scarcely obscure.

467. P. texana. Elongata, obscure viridi-ænea subnitida, capite thoraceque versus latera pilosis, illo parce punctato, hoc latitudine longiore, lateribus ante medium rotundatis postice parallelis rectis, disco punctis paucis impressis, ante basin leviter transversim impresso; elytris thorace duplo latioribus, confertim rugose punctatis; antennis nigris, pedibus rufo-testaceis, trochanteribus tarsisque cyaneo-tinctis. Long. ·54.

One female from Texas. Differs at first sight from *P. unguicularis* by the narrower and more convex thorax, with the sides not sinuate. A few very small hairs are visible near the sides and tip of the elytra, but not sufficient to enable them to be described as pubescent. The erect hairs of the head and sides of the thorax are shorter and less fine than in *P. unguicularis*, and the pubescence of the under surface is also less fine.

LYTTA Fabr.

468. L. puberula. Nigro-picea æneseens, pube pallida erecta vestita, capite thoraceque sat dense punctatis, hoc spatiis parvis lævibus transversim positis, latitudine paulo breviore lateribus rotundatis; elytris thorace fere duplo latioribus, confertissime punctatis, fere opacis; antennis capite thoraceque haud longioribus, articulis externis globosis, ultimo longiore ovato, apice acuto; unguiculis testaceis. Long. ·48.

One specimen collected at Fort Whipple, Arizona, by Dr. Elliott Coues, U. S. A. A rather stout species, readily distinguished by the characters given above: it belongs to the same group as *L. biguttata*, and, as in that species, the outer spur of the hind tibiæ is very thick, obliquely truncate and concave at tip, while the inner one is slender and acute.

469. L. viridana. Læte viridiænea, capite thoraceque pernitidis, illo parce punctato, puncto verticali rubro, hoc punctis paucis impressis, subpentagono, lateribus ante medium obtuse angulatis, disco bifoveato, canaliculato, antice posticeque transversim impresso, margine basali latius reflexo; elytris thorace plus sesqui latioribus, elongatis parallelis, dense rugosis; subtus cyanea; trochanteribus posticis muticis, antennis nigris moniliatis, articulo ultimo ovali acuto. Long. ·60—·72.

Mas segmento ventrali penultimo late emarginato, medio versus apicem subtiliter carinato, ultimo fere ad basin fisso, fissura setis longis fimbriata; antennis capite thoraceque longioribus.

Femina segmento ventrali penultimo truncato, ultimo breviter emarginato, apice pilosello; antennis capite thoraceque haud longioribus.

Rocky Mountains, from the Black Hills northward into the Hudson Bay Territory. A beautiful species, allied to *L. nuttalli*, but differing by the color, and by the hind trochanters not being armed with a tooth on the inner edge. The middle tibiæ are curved, and the outer spur of the hind tibiæ broad, concave, and somewhat acute. The penultimate ventral segment in the male of *L. nuttalli* is broadly emarginate as in the present species, but the hind trochanters are armed with an acute spine, which in the female becomes a prominent angle. In *L. cyanipennis* the hind trochanters are similarly armed, but the penultimate ventral segment is acutely emarginate. *L. salicis* appears to be a variety of *L. cyanipennis*, but the condition of the specimens is very bad and renders the comparison unsatisfactory.

CALOPUS Fabr.

470. C. aspersus. Valde elongatus fusco-testaceus, dense punctatus, cinereo-pubescens, thorace latitudine longiore vage impresso lateribus fere rectis, versus apicem paulo rotundatis; elytris punctis parvis denudatis politis subseriatim positis. Long. ·34—·56.

Mas antennis subserratis corpore longioribus; oculis supra approximatis, segmento ventrali quinto apice emarginato.

Femina antennis tenuibus filiformibus, corpore paulo brevioribus; oculis supra distantibus; segmento ventrali quinto apice haud emarginato.

Texas, Mr. Sallé and Dr. Horn; Lower California, Mr. Xántus. This species differs from *C. angustus* not only by the small smooth spots of the elytra, but by the form of the thorax, which has the sides straight, merely a little rounded near the apex. In *C. angustus* the thorax is feebly campanulate, the sides being rounded near the apex, and then broadly sinuate to the base. The pubescence of the elytra is uniform in the latter, while in *C. aspersus* longer hairs are intermixed.

It is interesting that *C. angustus*, described by me from a single New Mexican specimen, has been found quite abundantly by Mr. William Couper, near Quebec, Lower Canada. The sexual characters have not been noticed before, and are as follows: Male with the antennæ longer than the body, flattened, tolerably strongly serrate; eyes nearly contiguous at the vertex; fifth ventral segment deeply and broadly emarginate, sixth elongated, emarginate at tip. Female with the antennæ scarcely two-thirds the length of the body, feebly serrate; eyes distant at the vertex; fifth ventral segment broadly rounded at tip, 6th retracted, truncate.

MICROTONUS Lec.

471. M. sericans. Elongatus fuscus, opacus, supra dense rugose punctatus, pube aurea depressa brevi sericans, fronte inter antennas linea profunda (sutura clypeali) impressa, thorace subquadrato, apice vix emarginato, angulis anticis rotundatis, lateribus paulo sinuatis, angulis posticis acutis, basi utrinque paulo obliqua, medio subemarginata, disco indistincte canaliculato, utrinque pone medium profunde oblique impresso; elytris thorace paulo latioribus, transversim modice convexis. Long. ·10—·15.

Lec. Class. Col. N. America, 259.

Not uncommon, from New York to Georgia, on leaves of trees in early summer. The antennæ are nearly filiform, but very

slightly thickened externally. The generic characters are sufficiently detailed in the work cited above. I observe no sexual differences, except that the antennæ of the male are more than half the length of the body, and the distance between the eyes is not greater than their diameter; while in the female the antennæ are shorter and the eyes more distant.*

XANTHOCHROA Schmidt.

472. X. trinotata. Valde elongata, fusca, breviter pubescens, capite nitido modice punctato, flavo-testaceo, vitta longitudinali, labro, palpis maxillaribus, mandibularum apice, palporum labialium articulo ultimo antennisque nigris; thorace campanulato, latitudine longiore, lateribus sinuatis, antice rotundatis, disco nitido modice punctato, antice postice et utrinque versus latera impresso, flavo-testaceo, lateribus vittaque dorsali lata nigris; elytris dense punctatis, lineis utrinque duabus elevatis versus apicem obliteratis, tertia externa obsoleta, quartaque submarginali distincta, limbo suturali marginalique testaceo; subtus fusca, propectore, coxis anticis et mediis, femorum tibiarumque basi testaceis. Long. ·50.

One specimen, Louisiana; Mr. Ulke. Easily distinguished from *X. lateralis* by the larger size, the less finely punctured thorax, which is marked with a broad black dorsal vitta.

COPIDITA Lec.

Corpus elongatum gracile. Caput latitudine longius, antice sensim angustatum; oculi subtiliter granulati, modice transversi, late distantes, antice vix sinuati; antennæ filiformes, utriusque sexus 11-articulatæ, articulo 2ndo brevi, 3io sequenti æquali, 11mo (maris) superne sinuato, quasi diviso; mandibulæ apice emarginatæ. Maxillæ elongatæ lobis angustis pilosis; palpi maxillares (maris) elongati, articulo 1mo parvo, 2ndo elongato, 3io breviore, 4to 2ndo haud breviore, dilatato, latitudine duplo longiore, latere externo concavo, interno curvato infra medium subangulato. Mentum trapezoideum late concavum, medio carinatum; ligula late emarginata; palpi labiales breves, articulo ultimo dilatato, apice oblique rotundato. Elytra elongata, thorace latiora, dense punctata, lineis utrinque quatuor elevatis vix distinctis. Pedes elongati, coxis intermediis contiguis, tibiis omnibus apice bicalcaratis; tarsis articulis pluribus subtus spongiosis, unguiculis angustis basi parum dilatatis.

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* The analytical table of genera of *Oedemeridæ*, on p. 258 of Class. Coll. N. America, is quite defective; the following may be substituted as showing the relations of the genera after *Microtonus*:—

Antennæ not embraced by the eyes; middle coxæ contiguous;
- Body stout; tarsi with the joints 4, 3, 2, spongy beneath. Ditylus.
- Body slender;
  - Anterior tibiæ with one terminal spur;
    - Eyes feebly emarginate. Nacerdes.
    - Eyes deeply emarginate. Xanthochroa.
  - Anterior tibiæ with two terminal spurs;
    - Ungues simple or obsoletely toothed;
      - Mandibles bifid at tip. Copidita.
      - Mandibles acute at tip. Oxacis.
    - Ungues strongly toothed at base;
      - Mandibles acute at tip. Probosca.
      - Mandibles bifid at tip. Asclera.

473. C. quadrimaculata. *Probosca quadr.* Motsch. Etudes Ent. 1852, 78; *Nacerdes quadrimaculata* Mannh. Bull. Mosc. 1853, 267.

California. The sexual characters of this species are somewhat remarkable: the fifth ventral segment of the male is deeply sinuate each side, and prominent at the middle, the lobe being slightly truncate at tip; from beneath the fifth ventral proceed two long spatulate appendages, which when closed together nearly conceal the penis; under the last mentioned organ is a slender elongate corneous process, with two hooks at the extremity. The female is unknown to me.

OXACIS Lec.

The species of this genus are numerous, and are readily recognized by the tip of the mandibles being acute, the claws very slightly dilated at base, the anterior tibiæ having two terminal spurs, and the tarsi having only the penultimate joint spongy beneath. The species in my collection may be divided into three groups, according to the shape of the last joint of the maxillary palpi. The last joint of the antennæ is feebly sinuate in the male of all the species; the right mandible in *O. dorsalis* is armed with a small tooth on the upper edge near the tip:—

A. Last joint of maxillary palpi subcultriform, inner side subangulated nearer the base than the tip;
- Prothorax with a median vitta and lateral spots dark colored;
  - Elytra strongly punctured, finely pubescent (color varied). CANA.
  - Elytra feebly punctured, densely pubescent. PALLIDA.
- Thorax convex, without medial dark line;
  - Color pale, sides of thorax dark. TÆNIATA.
  - Color black, thorax rufous or yellow;
    - Thorax immaculate. THORACICA.
    - Thorax with basal and apical black spots. NOTOXOIDES.
- Thorax broadly concave; color piceous. GRANULATA.

B. Last joint of maxillary palpi elongate-triangular, inner side subangulated nearer the tip than the base; tip subacute;
Piceous; head, thorax, and legs testaceous. . . . BICOLOR.
Dark piceous; finely pubescent. . . . FULIGINOSA.
C. Last joint of maxillary palpi rounded at tip, inner side subangulated at the middle. . . . DORSALIS.

474. O. granulata. Pallide picea, subtiliter cinereo-pubescens, capite thoraceque confertim punctatis, punctis versus latera subtilioribus, hoc latitudine longiore, postice modice angustato, disco antice late concavo, ante basin vage impresso; elytris thorace latioribus, elongatis confertim granulato-punctatis; subtus dilutior. Long. ·25—·30.

Two males, Cape San Lucas, Lower California; collected by Mr. Xántus. The last joint of the maxillary palpi is subcultriform, about twice as long as its width, and the broadest part is about one-third from the base; the 11th joint of the antennæ is slightly sinuate above. The fifth ventral segment is rounded at tip. The claws are very feebly dilated at the base.

475. O. fuliginosa. Picea subnitida, tenuiter cinereo-pubescens, capite thoraceque subtiliter punctatis, hoc latitudine longiore postice angustato, ante basin foveato, margine apicali basalique testaceis; elytris thorace latioribus elongatis, punctulatis; palpis maxillaribus articulo ultimo triangulari, oblique subtruncato. Long. ·34.

Mas antennis corporis dimidio longioribus; segmento ventrali sexto prominulo profunde emarginato, membro virili conspicuo.

Femina antennis corporis dimidio haud longioribus; segmento ventrali 5to apice rotundato, 6to occulto.

One pair, collected at Cape San Lucas, Lower California, by Mr. Xántus. This species agrees with *C. bicolor* in the form of the last joint of the maxillary palpi, which is elongate triangular, and obliquely truncate at the tip, the angle on the inner margin being nearer the tip than the base.

PROBOSCA Schmidt.

476. P. pleuralis. Elongata, pallida, subtiliter punctulata, tenuiter cinereo-pubescens, thoracis lateribus elytrorumque vitta submarginali fuscis, oculis nigris; palpis maxillaribus articulo ultimo elongato, triangulari, latere interno ad medium subangulato; mandibulis acutis, dextro pone apicem dente emarginato. Long. ·30—·40.

Two specimens, from Florida, given me by Mr. Ulke. This species agrees with *Oxacis dorsalis* in the form of the mandibles and palpi, but the ungues are strongly toothed at the base.

477. P. lucana. Minus elongata, testacea, fusca, vel fusco-vittata; subtiliter dense punctulata, tenuiter cinereo-pubescens, thorace postice modice angustato, latitudine paulo longiore, ante medium utrinque vage impresso; ore antennis pedibusque fusco-testaceis, mandibulis acutis haud dentatis. Long. ·22—·36.

Abundant at Cape San Lucas, Lower California; collected by Mr. Xántus. This species is somewhat robust in form, resembling *Oxacis dorsalis.* It varies much in color, being sometimes entirely fuscous, sometimes testaceous, but usually the thorax is varied with spots and the elytra are marked with a broad discoidal vitta, and a shorter one near the scutellum. I observe no sexual differences.

LACCONOTUS Lec.

478. L. punctatus. Elongatus niger, confertim punctatus, subtiliter pubescens, thorace latitudine haud breviore, subquadrato, lateribus antice late rotundatis, medio subcarinato, utrinque vage foveato; elytris thorace latioribus, elongatis transversim parum convexis; abdominis segmento ventrali 1mo brevi, 2ndo elongato macula magna pallida signato; antennis capite thoraceque haud longioribus, subserratis, articulo 3io præcedente sesqui longiore. Long. ·17.

Lec. Class. Col. N. America, 255.

One specimen, given by the Rev. D. Ziegler, as found in York County, Pa. The generic characters are sufficiently detailed in the work above cited. I will merely add that, although the head is not prolonged into a beak, I have associated this genus with *Mycterus* on account of the small size of the middle coxæ, the dilatation of the penultimate tarsal joint, and the absence of the lateral suture of the prothorax. The short 1st ventral segment is a singular character, not found in *Mycterus*, nor in any of the neighboring families; the 2d ventral is nearly as long as the two following united, and is tumid at the middle with the anterior outline convex forwards; a large pale yellow spot occupies the whole of the middle portion; the 5th ventral is not shorter than the 4th, and is rounded at tip.

I regard this genus a connecting form from *Mycterus* to *Pythidæ*, though the full development of its relationships must depend on the discovery of other specimens.

PYTHO Latr.

479. P. strictus. Rufo-piceus nitidus, capite parce subtilius punctato, thorace latitudine breviore, lateribus valde ampliato-dilatatis, tumidis, propre basin sinuatis, angulis posticis rectis, parce punctato, profunde canaliculato, utrinque valde excavato; elytris thorace latioribus postice vix ampliatis, subtiliter punctulatis, pone basin sulcatis. Long. ·65.

One specimen from Canada. The head is more finely punctured than in *P. niger* and *americanus*, and the thorax is much more elevated and dilated upon the sides, with the hind angles quite conspicuous; the discoidal impressions are deeper, and the two portions of each impression are more distinctly defined. The elytra are as finely punctulate as in *P. americanus.*

SALPINGUS Gyll.

480. S. tibialis. Supra æneo-niger nitidus, capite punctato, fronte brevi late bifoveato, vertice obsolete foveato, thorace latitudine sublongiore postice angustato, utrinque ad latera impresso, ante basin transversim impresso; elytris thorace latioribus, subtilius seriatim punctatis, interstitiis alternis parce uniseriatim punctatis; subtus nigropiceus, tibiis tarsisque piceo-testaceis, antennis piceo-testaceis, articulis externis piceis. Long. ·12.

One specimen, from Kansas, given me by Dr. S. Lewis. The thorax is narrower and more convex than in *S. virescens*, and the punctures are more distant, agreeing in these characters with *S. alternatus:* in the latter the thorax is scarcely impressed, and in both species the legs are completely blackish.

RHINOSIMUS Latr.

481. R. nitens. Elongatus, nigro-æneus pernitidus, capite cum rostro fortiter punctato, hoc fronte angustiore, plano, ultra antennas dilatato, margine apicali oreque testaceis; thorace latitudine vix longiore, postice angustato, lateribus antice rotundatis, disco rude punctato, quadrifoveato; elytris thorace fere duplo latioribus, seriatim punctatis, interstitiis alternis uniseriatim parce punctatis, pone basin profunde arcuatim transverse impressis; subtus piceus, vel piceo-testaceus; capite subtus grosse punctato. Long. ·15.

Maine and Canada; rare. I have received one specimen from Dr. A. S. Packard, and another from Mr. W. Saunders of London, C. W. The under surface with the legs is pale piceous in one, but nearly black in the other.

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